

GOLIAD COUNTY FARM BUREAU

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2009 FEB 13 PM 3:17

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

February 10, 2009

Office of the Chief Clerk, MC 105
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: Proposed Permit No. UR03075 Uranium Energy Corp. (UEC) Request for Contested Case Hearing

Dear Chief Clerk,

I previously was directed by the Board of Directors of Goliad County Farm Bureau to contact you and request a contested case hearing with the Texas Commission on Environmental Quality and Uranium Energy Corporation regarding Proposed Permit No. UR03075 and UEC's request for an aquifer exemption. This request was made on behalf of all Goliad County Farm Bureau members, but specifically Ted Long, Otto Bluntzer, Jim Bluntzer, Charles Bluntzer, Margaret Rutherford, Aldon Bade, David Cheek, Luann Duderstadt, Elder Abrameit, Gary Halepeska and Roman Bethke who are directly affected by the above mentioned permit and request for aquifer exemption.

This letter is in response to the formal written responses provided by the applicant (UEC), the Executive Director of TCEQ and the Public Interest Counsel of TCEQ and is reaffirmation of the Farm Bureau request to be granted a contested case hearing.

The wells within the permit area are primarily for livestock and wildlife use, with secondary use for human consumption. However, there are many domestic and livestock wells that surround the permit area. As such, there are concerns raised in the responses which are detailed below.

QUANTITY AND QUALITY OF GROUNDWATER

UEC's application indicates that they are planning on disposing of a minimum of 72,000 gallons of water everyday the mine is in operation, and that is if UEC is disposing of only the mandated 1% bleed. If they must increase their disposal percentage in order to contain an excursion, then it exponentially increases. Once UEC starts the restoration phase after having mined uranium to its economic threshold, the use of water goes up to three times that amount. Our aquifer will not be sustainable with that amount of draw, especially in periods of dry weather. This issue is critical and must be addressed.

Additionally, eight water wells in and contiguous to the exploration permit area have been degraded since exploration began. Wells that have never before had a problem are now plugging up and have been contaminated with iron oxide bacteria, causing a "red slime" to collect in water filters and form in household appliances. In one particular instance, when livestock were forced to use an older well that provided water solely for livestock use and were barred from using a newer filtered well, the animals would not drink the water from the older well and broke through the barrier fence to get to that filtered water. The Railroad Commission of Texas was asked to conduct an investigation into the well degradation and

concluded that there was no proof that the exploration was the cause of the problems. The suggestion was made that the excessive rainfall in the spring of 2007 was the culprit. How can only those wells in close proximity of the exploration site become degraded when the entire county received that "excessive" rainfall? Additionally, since we have been in drought conditions since the last quarter of 2007, the Railroad Commission has offered no revised reason for the occurrence of degraded groundwater for 18 months and why the wells have cleared up, now that exploration borehole drilling has stopped for 18 months.

EXECUTIVE DIRECTOR'S RESPONSE ATTACHMENT C: COMPLIANCE HISTORY

→ **Performance record of UEC** - UEC has publicly stated that they want to be "good neighbors", yet they were cited by the Railroad Commission in an inspection report, during an inspection conducted 7 – 9 March 2007, attached in a letter to Mr. James Blackburn, for over 74 violations of their exploration permit. UEC has tried to pass off these violations as "only four"; however, those four mistakes were committed over and over again, to wit: improperly located boreholes, improperly plugged boreholes, boreholes left open in excess of 48 hours, and improperly backfilled mud pits. Even though the Railroad Commission of Texas has re-inspected and cleared UEC of any further violations, the Company continues to leave boreholes open, which is one of the elements of the federally filed lawsuit brought by Goliad County against UEC.

→ **Gamma radiation contamination** – The improper backfilling of mud pits has resulted in the exposure of radioactive materials to the surface. This was one of the violations noted above and a subsequent gamma radiation survey conducted in August of 2007 indicated that there were "two instances of gamma radiation above observed background levels...possibly indicating that insufficient topsoil was placed over drilling mud or cuttings near two plugged boreholes." The original Railroad Commission report sent to Goliad County Judge Harold Gleinser on 9 May 2007, reads in part: "ingestion of the radioactive materials (including inhalation of airborne dust) from this limited number of mud pits should be avoided." A statement such as this indicates that someone within the Surface Mining and Reclamation Division of the Railroad Commission believes there is some sort of potential hazard, but what, still remains unknown. I have been in either direct or indirect contact with the following experts: Dr. Hillman, Texas Animal Health Commission, Dr. Poston, Nuclear Engineering Department, Texas A&M University, and Dr. Acuff, Animal Science Department, Texas A&M University. They have all assured me that there are no short-term ill effects on livestock or wildlife to this type of exposure; however, they reported that there has been no research conducted to determine the possible long-term ill effects on the food chain.

Section 9.5 of the application titled "Rain and Emergency Operations" addresses rainfall captured on the production pads being disposed of as "waste fluids." It also discusses a 25 year rain event of 8.5 inches in a 24 hour period. We have had MANY instances where this is exceeded, which begs the question, WHAT IF??? Surface spills, whether from rain water or equipment failure, CANNOT be tolerated! Lastly, I would like to point out that broken pipes or failed valves are accidents, violations such as "surface plugs" found to be in excess of 20 feet below the surface, or improperly backfilled mud pits are not.

The historical evidence indicates that no unconfined aquifer can be mined without irrevocable change and damage to it, in other words, reduction of water volume and degradation of water quality. Our aquifer in the mining area, as well as the rest of the county, is in use for domestic and livestock usage and must remain available for continuous use. I respectfully request and STRONGLY urge the Commissioners to grant the contested case status for Goliad County Farm Bureau.

Regards,

A handwritten signature in black ink, appearing to read 'P. T. Calhoun', with a long horizontal flourish extending to the right.

P. T. Calhoun
President, Goliad County Farm Bureau



RAILROAD COMMISSION OF TEXAS

SURFACE MINING AND RECLAMATION DIVISION

March 27, 2007

RECEIVED
MAR 30 2007

Mr. James B. Blackburn, Jr.
Blackburn Carter
4709 Austin
Houston, Texas 77004

RE: Uranium Energy Corporation (UEC)
Weesatche Project, Goliad County
Uranium Exploration Permit No. 123
Inspection Report

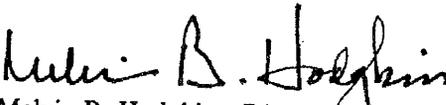
Dear Mr. Blackburn:

Enclosed is a copy of the report for the inspection completed on March 7-9, 2007 at UEC's Weesatche Project, Goliad County. The inspection focused on assessing the borehole site reclamation in accordance with the performance standards defined in the permit application, permit issuance letter and the Uranium Act and Regulations. Deficiencies with the borehole and mud pit reclamation were identified and a Notice of Violation was issued as a result of the inspection.

Additionally, a gamma radiation survey of the area was conducted for comparison of the pit area radiation levels with the normal background level. The soil samples collected as part of this survey are still being analyzed and will be included in a subsequent report.

If you have any questions, please contact me at (512) 463-6901.

Sincerely,


Melvin B. Hodgkiss, Director
Surface Mining and Reclamation Division

MBH/ms
Enclosure



RAILROAD COMMISSION OF TEXAS SURFACE MINING AND RECLAMATION DIVISION

URANIUM EXPLORATION INSPECTION REPORT

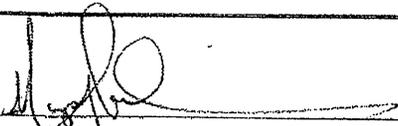
Mine Name: Weesatch Project Permit Number: 123
 Permittee: Uranium Energy Corporation (UEC) County: Goliad
 Industry Representative(s) Present: Mike O'Leary
 Inspector: Murphy Hawkins, Michael Gay, Jon Brandt, Dean Poth Date of Inspection: March 7-9, 2007

I. Field Conditions and Data Collection

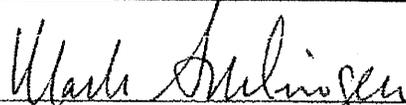
Samples Collected: No Yes Sample Type: Water Soil Vegetation
 Average Temperature 70° F Soil Condition Dry Date Last Rainfall unknown Wind Direction/
 Velocity (Est.) _____
 Photographs Attached: No Yes

II. Enforcement Action Taken

Notice of Violation Issued: No Yes NOV No. 080A
 Cessation Order Issued: No Yes CO No. _____


 Inspector Signature

03/23/2007
 Date


 Reviewing Supervisor Signature

3-26-07
 Date

Mine Name: Weesatch Project
 Permit Number: 123
 Inspection Date: March 7-9, 2007

III. Comments – Inspection Narrative

- Document the area of the permit inspected
- Discuss observations made during the inspection
- Document the results of any field tests taken
- Provide a summary of any discussions with industry representatives, along with results, and expectations from those discussions
- Describe any enforcement action taken during the inspection, along with facts or evidence supporting the enforcement action

This inspection focused on reclamation of the drilling activities associated with UEC's Weesatch Project, Permit No. 123. The examination was in response to a complaint and request for on-site investigation by James B. Blackburn, Jr. representing Goliad County. The complaint, received February 6, 2007, alleged that UEC was not disposing drill fluids and potentially harmful cuttings in accordance with the approved Uranium Exploration Permit No. 123 and that UEC's activities were adversely impacting the area groundwater resources. We met with Mr. Mike O'Leary at the site on March 7, 2007 at the beginning of the inspection.

Goliad County Commissioner Jim Krenek, Mr. Art Dohmann, Ms. Margret Rutherford and Dr. H. C. Clark, representing the Goliad County group, were also present on March 7, 2007. At the groups' request, we met them at the property of Mr. Elder Abrameit where they discussed the site conditions that prompted their complaint (see photograph 1).

UEC was contacted regarding the complaint and in response provided, by email on February 9, 2007, the location coordinates, plugging dates, and land ownership for each borehole drilled under the permit. UEC reported to the Commission that it had thus far plugged 202 holes.

The inspection focused on the surface impacts of the drilling program to verify if the reclamation procedures were being met. Site reclamation was assessed based on the performance standards defined in the permit application, permit issuance letter and the Uranium Act and Regulations. A total of 117 of the 202 boreholes reported as plugged were checked. A table listing the 117 drill locations checked during this inspection and the evaluation of reclamation associated with each borehole and mud pit is attached. During this inspection UEC had four drilling rigs active (see photograph 2). Only the older boreholes, on which UEC had provided identification information and reported as plugged, were inspected for reclamation compliance.

In Section IV A of the application, UEC states that, during drill site preparations, topsoil will be segregated from other soils and saved and later re-distributed. Topsoil was not re-distributed on the top of the majority of the drill sites inspected. In the 117 borehole sites inspected 74 were not fully re-topsoiled. Site 32892-84 (see photograph 3) exemplifies this drill site reclamation failure. Site 32892-84 is covered with a gray subsoil with little or no topsoil evident.

Mine Name: Weesatch Project
Permit Number: 123
Inspection Date: March 7-9, 2007

III. Comments – Cont.

In Section IV A of the application, UEC states that mud pits will be allowed to dry before being backfilled with subsoil and cuttings. This drying aids in preventing excursions semi-solid drilling fluids. I observed at the active sites that drilling pits were being backfilled very quickly after the hole was logged with no drying period (see photograph 4). This process caused lighter drilling liquids to be crowded out of the pit and flow on to the surface. Evidence of this reclamation failure was also evident in the several older drill holes including Borehole 32892-84 where drilling fluids or cuttings were found on the surface (see photograph 5).

In Section IV A of the application, UEC states that mud pit areas will be backfilled to above grade to allow for settling. This precaution is designed to prevent the formation of depressions in the pasturelands drilled. Eleven of the 117 boreholes inspected had depression areas forming over the mud pits. Borehole 32201-N40 is an example of this backfilling failure (see photograph 6).

UEC committed in Section IV B of the application to mark each borehole location in such a way that the Commission could verify the presence of a surface plug. UEC provided the Commission with State Plane Coordinates for each borehole. We attempted to locate the boreholes with the coordinates using three separate GPS systems, one with sub-meter accuracy. The Commission inspectors were only able to tag the surface plug in six holes of the 117 inspected using the GPS and a four foot steel rod probe. The holes that were located were found because there was some surface indication of the borehole location not because they were at the exact coordinates provided. Evidence was present in the field that a number of boreholes may have been marked over the hole with a wooden stake at one time but most of the sites had been regraded or otherwise re-disturbed.

As required by the Commission's permit issuance letter, each borehole drilled in this project is required to have a ten-foot surface plug located three feet below the surface. The majority of the borehole locations were unable to be located for verification. Of the fourteen boreholes located, five were found to be open to the surface with the cement plug estimated to be greater than 20 feet below the surface and the remainder of the plugs found were between 0 and 18 inches below the surface. Borehole 32201-N38 (see photograph 7) is an example of this plugging failure.

Several sites were inspected where the surface reclamation had been done in accordance with the performance standards contained in UEC's Permit No. 123 (see photographs 8 and 9).

In addition to the site reclamation inspection, a gamma radiation survey of the area was made to determine if the radiation levels from the pit areas was higher than background levels. As part of this survey, soil samples were secured for analysis. The results of this part of the inspection are still being analyzed and will be included in a subsequent report.

Mine Name: Weesatch Project
Permit Number: 123
Inspection Date: March 7-9, 2007

III. Comments – Cont.

Based on observations made during this field inspection I believed that UEC was not in compliance with their Exploration Permit and the Regulations and issued Notice of Violation 080A. The Notice of Violation requires that UEC install a concrete surface plug at all sites, mark the exact location of each borehole for verification by the Commission, and remove all drilling mud, cuttings, cement and other debris burying it with no less than one foot of topsoil. UEC is directed to complete the remedial action by April 12, 2007.

A closeout meeting was conducted on March 12 via telephone conference with Mr. O'leary wherein the items included in this report were discussed.

Mine Name: Weesatch Project
Permit Number: 123
Inspection Date: March 7-9, 2007

VI. Photographs

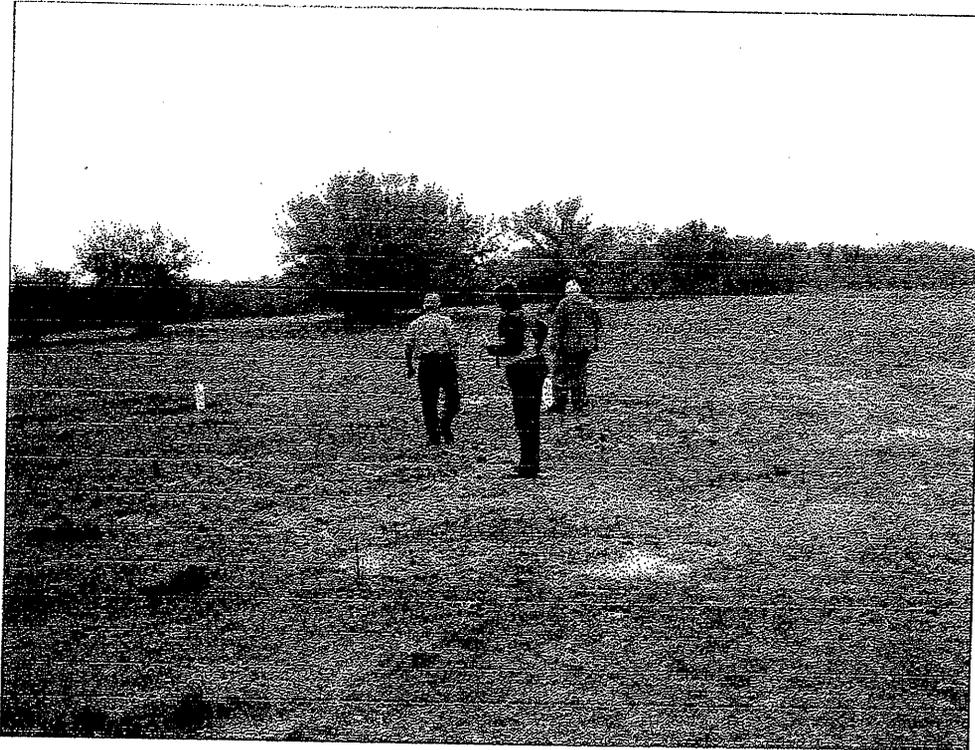


Photo 1: Abrameit property with members of Goliad County group

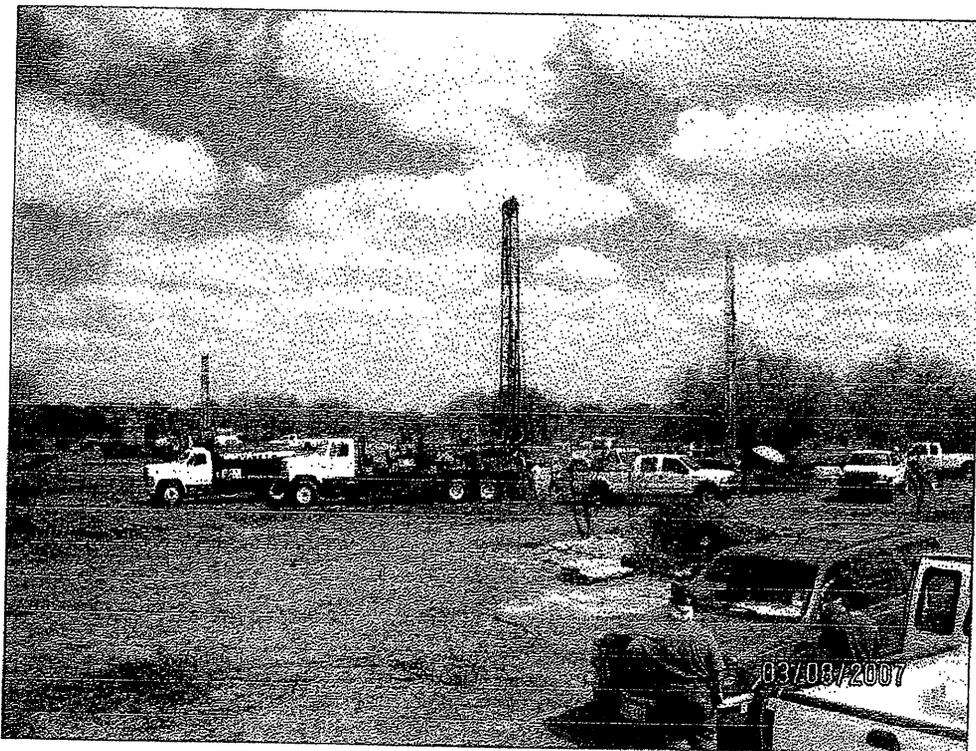
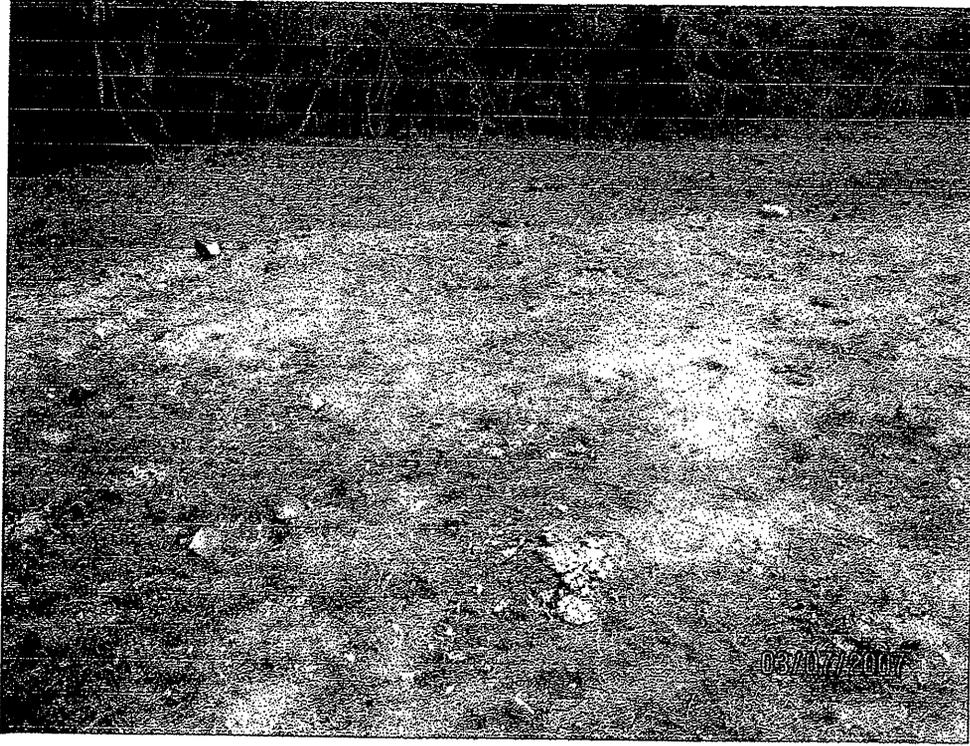


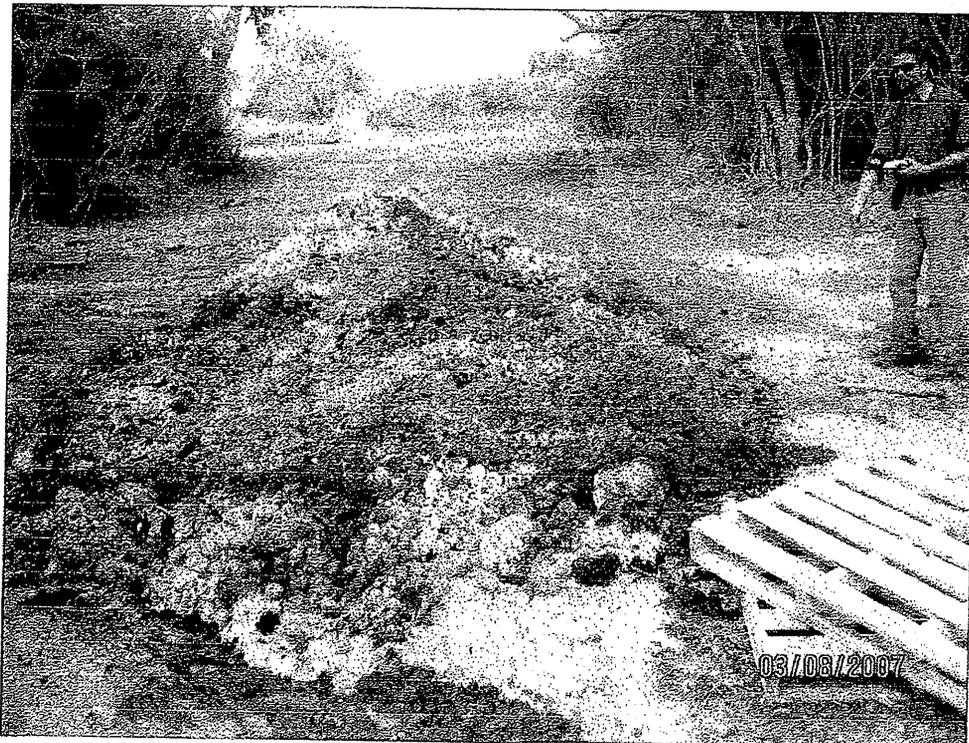
Photo 2: Three of the Four Drill Rigs Active During the Inspection

Mine Name: Wecsatch Project
Permit Number: 123
Inspection Date: March 7-9, 2007

VI. Photographs



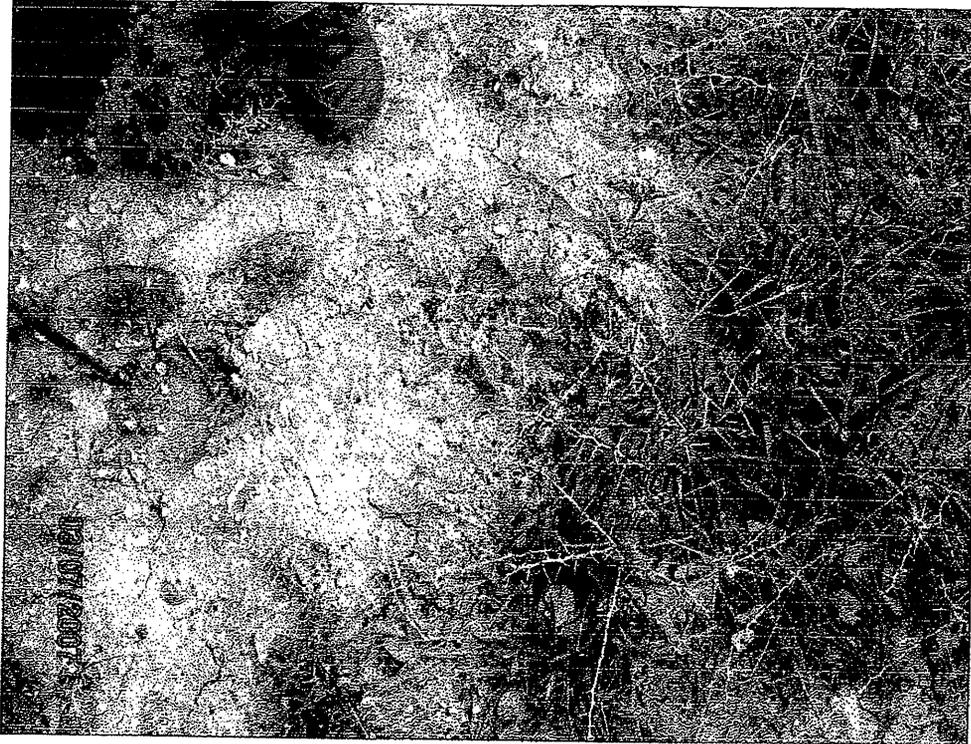
Photograph 3: Borehole 32892-84, Grey Subsoil on Surface



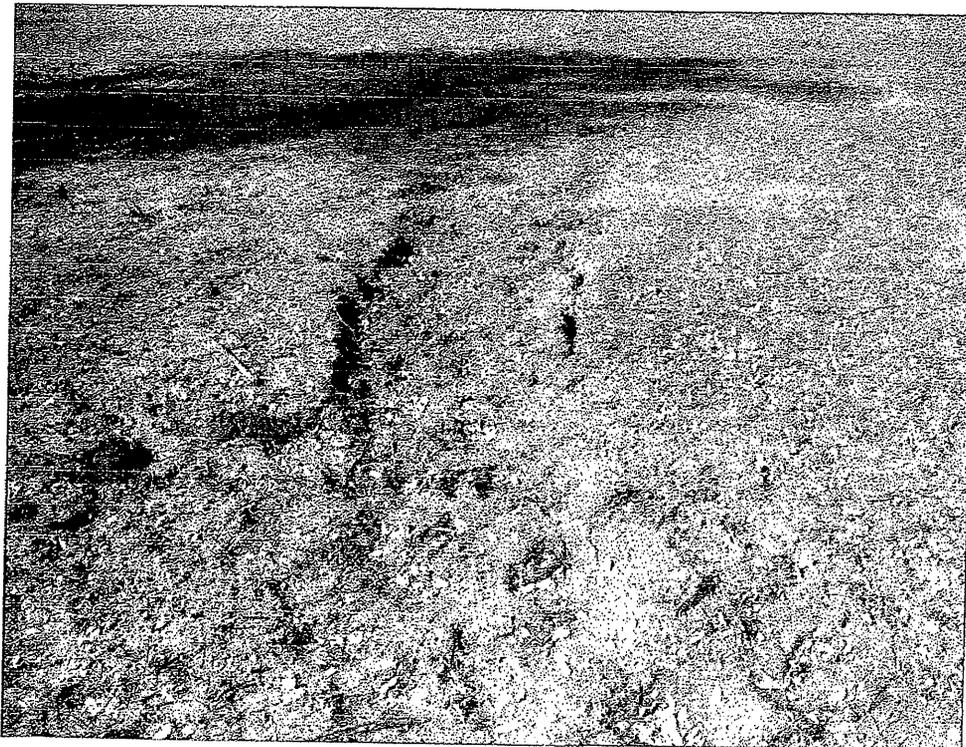
Photograph 4: Drilling fluids excursion from mud pit

Mine Name: Weesatch Project
Permit Number: 123
Inspection Date: March 7-9, 2007

VI. Photographs



Photograph 5: Borehole 32892-84 cuttings from pit on surface



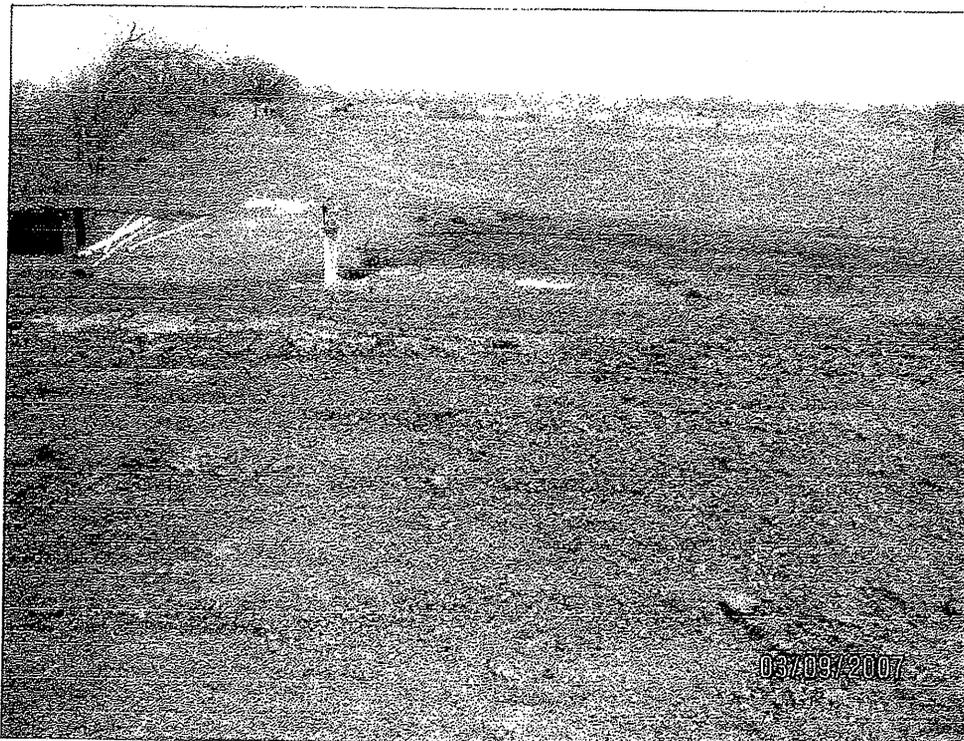
Photograph 6: Borehole 32201-N40 Mud Pit Depression

Mine Name: Weesatch Project
Permit Number: 123
Inspection Date: March 7-9, 2007

VI. Photographs



Photograph 7: Borehole 32201-N38 No Surface Plug



Photograph 8: Jacobs Water Well Reclamation Site

ELIZABETH A. JONES, CHAIRMAN
MICHAEL L. WILLIAMS, COMMISSIONER
VICTOR G. CARRILLO, COMMISSIONER



MELVIN B. HODGKISS, P.E., DIRECTOR

RAILROAD COMMISSION OF TEXAS
SURFACE MINING AND RECLAMATION DIVISION
May 9, 2007

Honorable Harold Gleinser
Goliad County Judge
P.O. Box 677
Goliad, Texas 77963

RECEIVED
MAY 14 2007

RE: Uranium Exploration Corporation (UEC)
Weesatche Project, Goliad County
Uranium Exploration Permit No. 123

Dear Judge Gleinser:

Enclosed is a copy of the gamma radiation survey performed by my staff on selected areas within the permit boundary of UEC's Permit No. 123. This survey was conducted to assist our investigation in determining whether exploration sites had been adequately reclaimed with respect to covering or burying drilling mud and cuttings. The survey confirms our previous visual observation and determination that drilling mud/cuttings were left on or near the surface at some drill sites. While some elevated gamma radiation levels were observed, the extent of the readings within the surveyed areas is minimal relative to the land area disturbed by the exploration activities and not sufficient to pose a radiation exposure hazard. Our current enforcement action for this permit will ensure that adequate remediation of the exploration sites occurs to remove drilling mud/cuttings on or near the surface.

Please feel free to give me a call should you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Melvin B. Hodgkiss".

Melvin B. Hodgkiss, Director
Surface Mining and Reclamation Division

MBH/ge
Enclosure

✓cc: James Blackburn, Blackburn Carter, P.C. (w/enclosure)

Report

Gamma Radiation Survey of Selected Areas Within Permit Boundary (Uranium Energy Corporation, Permit 123, Weesatche Project)

Prepared by

Jon E. Brandt, P.G.
Soil Scientist, AML Program

Surface Mining and Reclamation Division
Railroad Commission of Texas

May 8, 2007

Gamma Radiation Survey of Selected Areas Within Permit Boundary (Uranium Energy Corporation Permit 123, Weesatche Project)

Summary

A characterization survey of gamma radiation was conducted to assist in the investigation of a complaint the Railroad Commission of Texas, Surface Mining and Reclamation Division, received from Goliad County (represented by Blackburn & Carter). The characterization survey covered portions of leased properties where Uranium Energy Corporation (UEC) had carried out and completed uranium exploration activities between May 2006 and February 2007. The exploration activities consisted of drilling test holes (boreholes), wire-line logging, and abandonment of test holes. Test hole abandonment was to include reclamation of associated mud pits and plugging of test holes (or casing, for a limited number of holes). The characterization survey objectives were to estimate background (ambient) gamma radiation levels and find out if there were elevated gamma radiation levels (compared to background) associated with the reclaimed mud pits and boreholes. The collected radiation data indicate there are elevated gamma radiation levels related to a relatively small proportion of the surveyed mud pits and boreholes. Radiochemical results from three surface samples taken near and from one of the backfilled mud pits suggest that elevated radiation levels are related to radioactive materials left at or near the surface by the exploration activities. The extent of elevated gamma radiation levels within the surveyed areas was minimal, relative to the land area disturbed by the exploration activities, and not sufficient to pose a radiation exposure hazard; however, ingestion of the radioactive materials (including inhalation of airborne dust) from this limited number of mud pits should be avoided. A follow-up radiation survey is recommended for the mud pit/borehole areas with elevated gamma radiation levels, after those areas have been mitigated by UEC (remedial action required by Notice of Violation No. 080A, issued on March 13, 2007).

Background Information

County Concerns

Blackburn & Carter sent the Surface Mining and Reclamation Division a letter on February 5, 2007, on behalf of Goliad County, expressing concerns with UEC's exploration activities as follows:

- Compliance with the terms and conditions of the exploration permit, the county claims that there are reports of UEC possibly leaving drilling mud and cuttings on the surface, and
- Potential ground water contamination from exploration activity.

This report addresses the County's first concern, regarding reclamation of mud pits and the possibility that drilling mud and cuttings may have been left on the ground surface.

Exploration Permit - Mud Pit Reclamation

Uranium Energy Corporation applied for a permit to conduct uranium exploration activities (application dated January 24, 2006). The permit was approved and assigned Exploration Permit No. 123. This mud pit reclamation information, required by the Uranium Mining Regulations, was included in the permit application:

- Each test hole would have a mud pit. Mud pits would be allowed to dry after drilling, backfilled with compacted soil materials (left above grade to compensate for settling of materials), and covered with the topsoil that was segregated and saved during mud pit excavation.
- No toxic material would be allowed on site - UEC anticipated that no radioactive material exceeding ambient levels would be encountered.

This radiation characterization survey was designed to evaluate UEC's compliance with its mud pit reclamation plan, as detailed in the exploration permit application.

Permit Location

The exploration permit covers approximately 10,700 acres in north Goliad County. The northern permit boundary is Fifteenmile Creek (which is also the county line). The characterization radiation survey covered portions of ten leases, involving six landowners. Total acreage for the ten leases is roughly 1,200 acres.

Gamma Radiation Characterization Survey Methods

General Design of Survey

There are three types of radiation associated with uranium deposits/ore bodies - alpha, beta, and gamma. We chose to measure gamma radiation since there is a rough correlation between it and the radium content found in an area (radium is naturally-occurring and produced by decaying uranium and thorium; U.S. EPA, 2007). Unfortunately, it is difficult to accurately predict the radium content of disturbed surface materials, since the measurement is affected by the kind of radiation detector being used and either of the following conditions may exist (individually or combined to some degree): gamma radiation may be coming from material below the surface; there may be highly radioactive material contained in a small area; or there is slightly radioactive material contained in a large area. A definitive conclusion cannot be made unless the materials are sampled and analyzed. It is important to note that there is measurable gamma radiation everywhere, since varying levels of cosmic radiation and naturally occurring radiation are encountered worldwide.

Our main objective was to survey the areas affected by exploration activities and the surrounding undisturbed ground. It was easy to identify the affected areas since little volunteer vegetation had become established over the backfilled mud pits and the surfaces of most of the mud pits were comprised of a combination of light-colored excavated subsoil (and possibly drilling muds and/or cuttings that were left on the surface; see Figure 1).

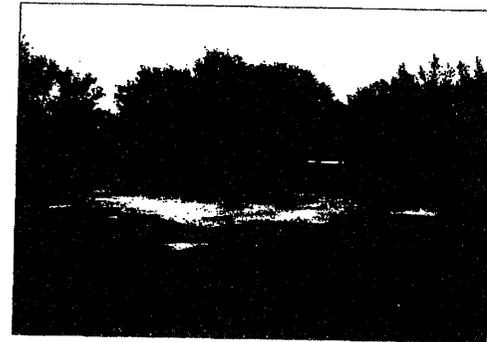


Figure 1. Backfilled mud pit area on Abraceit property.

I walked over portions of the leased properties, stopping to record gamma radiation measurements at regular intervals or when the meter readings changed. On average, I took a radiation measurement every 75 to 100 feet in the apparently undisturbed areas. I also walked up to 400 feet away from the boreholes in order to record the background or "ambient" gamma radiation levels. Radiation measurements were taken every 2 to 25 feet or more when I was walking over backfilled mud pits or areas where the radiation levels fluctuated. Measurements were taken at 1 meter above the ground surface. The measurement period at each point lasted an average of 20 seconds; however, it would take longer if the meter needle was oscillating slightly. All measurement locations and meter readings were recorded with global positioning system (GPS) equipment.

Equipment Used

- Ludlum 12S MicroR meter (1"X1" sodium iodide scintillator); measures gamma radiation; calibrated on February 13, 2007.
- Trimble ProXRS GPS Receiver with TSCI data collector, using satellite corrections to provide differential GPS (DGPS) capabilities and sub-meter accuracy.

Survey Details

- Gamma radiation observations were made on March 7th, 8th, and 9th, 2007.
- The radiation survey was limited to any of the 202 borehole and associated mud pit locations that were provided to the Surface Mining and Reclamation Division by UEC. These were the boreholes that had been drilled between May 2006 and February 2007.
- Due to time limitations, I was not able to survey all of the boreholes; however, I was able to obtain measurements for the mud pits and surrounding, undisturbed areas, for approximately 132 boreholes (65% of boreholes). The leased properties that had the highest density of boreholes were surveyed more intensively.

Material Sampling

At the beginning of the last day of the survey (March 9, 2007) I selected the mud pit where I had encountered the highest gamma radiation levels during the first two days of the survey. It turned out that I didn't find higher radiation levels at any of subsequent mud pits I surveyed later that day, so the materials within that mud pit were emitting the highest gamma radiation levels encountered during the entire survey. The disturbed area (previously shown in Figure 1) was located on the Abraceit property and associated with borehole 30892-85c and/or 30892-85AC. I obtained elevated gamma radiation readings around much of the light-colored, backfilled mud pit surface (8 - 11 micro-R/hr at 1-meter height and up to 24 micro-Roentgens/hour (micro-R/hr) on the ground, with detector on surface, pointed down).

- The mud pit surface was sampled following a procedure that is based on 25 TEXAS ADMIN. CODE §289.202(ee)(4) - Standards for Protection Against Radiation from Radioactive Material; Texas Regulations for Control of Radiation - where the radium-226 or radium-228 content in unrestricted areas, averaged over any 100 m², cannot be exceeded by more than 5 pCi/gm (picoCuries/gram), averaged over the first 15 cm (approximately 6 inches) of soil, over the background level (Texas Department of State Health Services, 2007).
 - Flagged off close to a 100 square meter area with a metal tape measure, with the area centered on the highest surface gamma radiation reading (see Figure 2).
 - Took subsamples within that area, which were composited and mixed in one bag - one subsample was taken near each corner and one at the center (total of five subsamples), using a ½-inch diameter JMC Backsaver soil probe, retrieving only the top 6 inches of material. The field-measured surface gamma radiation levels from each of the subsample locations were 24, 8, 12, 14, and 8 micro-R/hr.

- o Actual sampling area was 97 m², as measured with the GPS; the sample ID was UEC030907B. The sampled materials were a mix of light-colored subsoil, some surface soil materials, and drilling mud/cuttings.

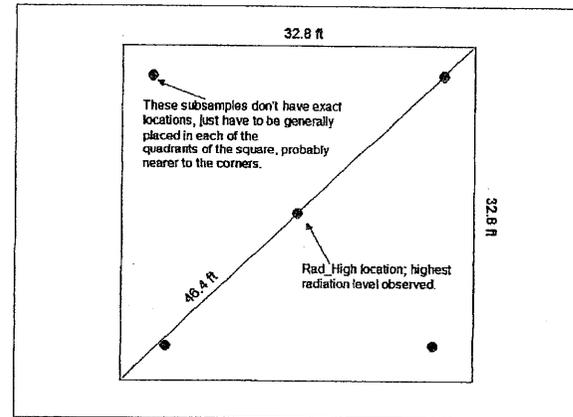


Figure 2. General sampling scheme (32.8 ft X 32.8 ft is close to 100 m²).

- A nearby, apparently undisturbed, area (60 feet away from the previous mud pit sampling area) was also sampled in a similar fashion, to serve as a comparison and represent the background (ambient) radionuclide content:
 - o Took 5 subsamples, composited and mixed in one bag, using a ½-inch diameter JMC Backsaver soil probe, retrieving only the top 6 inches of material.
 - o The surface gamma radiation level for all of the subsample locations was 6 micro-R/hr.
 - o Actual sampling area was 60 m², as measured with the GPS; the sample ID was UEC030907A. The sampled material was the surface horizon of the native soil.
- A third composite sample was taken within the mud pit area, where all of the material in the sample was comprised of the surface materials within a small area of the backfilled mud pit that exhibited the highest radiation levels encountered during the entire radiation survey.
 - o Took 5 subsamples, all within a 0.5 square-foot area, composited and mixed in one bag, using a ½-inch diameter JMC Backsaver soil probe, and retrieving only the top 6 inches of material.
 - o The surface gamma radiation level for all of the subsample locations was 24 micro-R/hr.
 - o Sampling area was approximately 0.5 square feet, as determined with a metal tape measure; the sample ID was UEC030907C. The sampled material was entirely comprised of a mix of light-colored subsoil and possibly drilling mud/cuttings.

The three composite samples were sent to the Environmental Sciences Branch of the Department of State Health Services (DSHS) for radiochemical analysis. Gamma spectroscopy (method EPA 901.1) was performed on whole samples. Subsamples from each sample underwent alpha spectroscopy (U.S. DOE Actinide Separation) and radium determination by radon emanation (EPA 903.1) following total digestion/pyrosulfate fusion. We received a hard copy of the radiochemistry results on May 1, 2007.

Gamma Radiation Characterization Survey Results

All of the point data collected during the radiation survey were downloaded from the GPS and added to a GIS (geographic information system) map. The data were also evaluated with a statistical software package. The results from the sample analyses were not evaluated statistically, as these was only a single composite sample from each sampled area.

Gamma Survey Results

- 1,058 gamma radiation observations were collected (see Figure 3).
- I created a buffer distance around the boreholes with the GIS to partition the radiation observations. Data were classified as background (ambient) radiation measurements if they were further than a threshold distance from any recent exploration disturbances; specifically, at least 82 feet away from boreholes or surface disturbance related to exploration. Eighty-two feet was chosen because it was the maximum distance of mud pit-related materials from a borehole (based on GPS coordinates) for several of the backfilled mud pit areas that were measured in the field (limited to 5 mud pits because of time constraints). Radiation measurement points also had to be at least 20 feet away from any other mud pit materials left on the surface to be classified as background (ambient) data.
- 281 observations were taken in areas that appeared to not be impacted by UEC exploration activities and were used to estimate the background (ambient) gamma radiation range. The other 777 observations were taken within 82 feet of boreholes or 20 feet from mud pit-related surface disturbances.
- The background (ambient) gamma radiation estimate ranged from 4 to 7 micro-R/hr at a 1-meter height, with 88% of the observations recorded as 5 or 6 micro-R/hr.
- The gamma radiation associated with boreholes and mud pit disturbance areas ranged from 4 to 11 micro-R/hr. All of the radiation observations above 7 micro-R/hr were recorded within the selected distances from boreholes and mud pit disturbances; however, only a small proportion (22 of 132, or 17%) of the surveyed boreholes/mud pits exhibited the higher radiation levels (see Figure 4 and Table 1).
- The gamma radiation data had non-normal distributions. Therefore, a non-parametric statistical analysis (Kolmogorov-Smirnov test) was performed. It showed that a significant difference exists between the distributions for data classified as representing background (ambient) radiation and data representing areas affected by the exploration activities, at a 95% confidence level (histograms included in Figure 5 to show the distribution differences). The relatively higher radiation levels that are associated with some of the current exploration activities may be due to varying amounts of drilling mud/cuttings that were left near or on the surface.

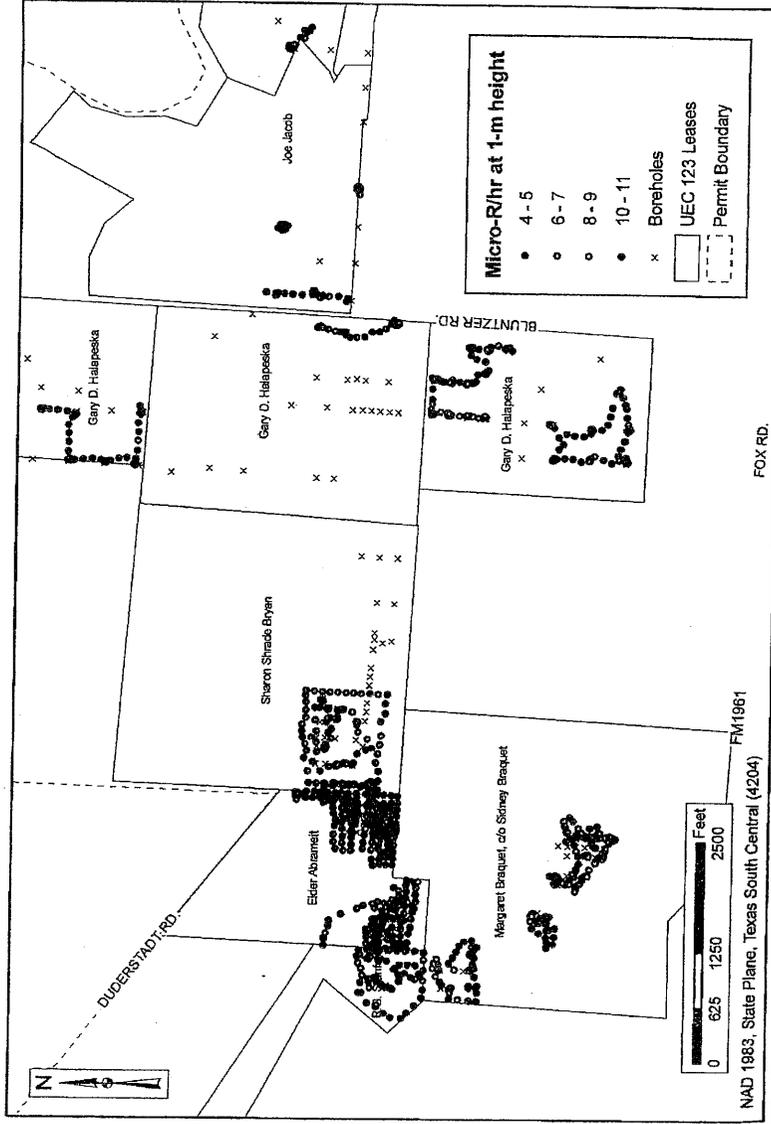


Figure 3. Gamma Radiation Survey of Selected Areas
(Uranium Energy Corporation Permit 123, Weesatche Project)

Railroad Commission of Texas
Surface Mining and Reclamation Division
DIV_POOL\UEC_123\GIS_Files
UEC_123_RadiationSurvey.mxd

Jon Brandt, P.G. (A.M., Soil Scientist)
May 8, 2007



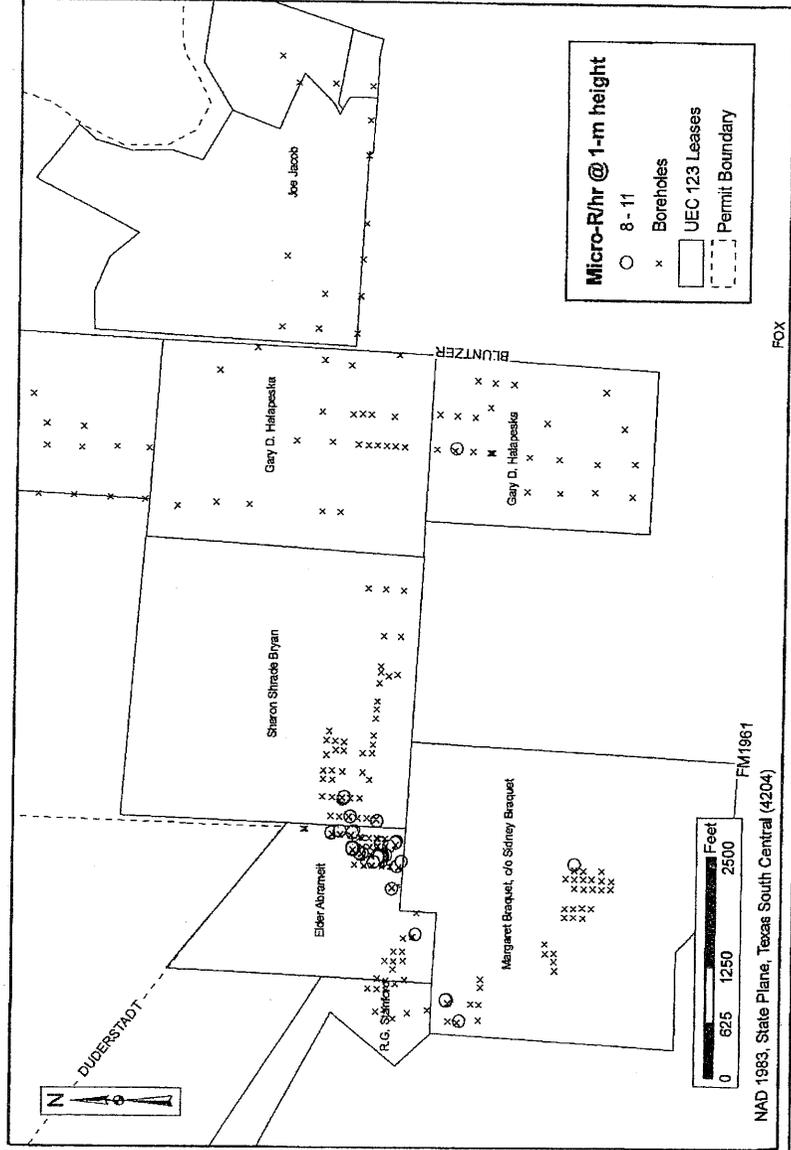


Figure 4. Gamma Radiation Above 7 micro-R/hr
 (Uranium Energy Corporation Permit 123, Weesatche Project)

Railroad Commission of Texas
 Surface Mining and Reclamation Division

DNV_POOL\UEC_123\Fld_Data\Uea_Analysis
 UEC_123_Radiation_Above7.mxd

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Table 1. 22 boreholes where elevated gamma radiation levels were observed.

Date Drilled	Borehole Location	Borehole Depth, feet	Driller
5/18/2006	30892-85c	140	Triple C
5/24/2006	30892-86c	410	Triple C
7/18/2006	32206-11	420	Klufa
10/27/2006	30892-98	360	Quick Mud
10/31/2006	30892-99	290	Quick Mud
10/31/2006	30892-103	450	Quick Mud
11/1/2006	30892-117	430	MHC
11/2/2006	30892-112	430	Quick Mud
11/3/2006	30892-116	430	MHC
11/6/2006	30892-113	430	Quick Mud
11/6/2006	30892-115	430	Quick Mud
11/6/2006	30892-106	420	MHC
11/7/2006	30892-114	430	MHC
11/7/2006	32202-96	420	MHC
11/15/2006	32202-117	430	Quick Mud
11/15/2006	32202-99	440	MHC
12/8/2006	RBLA-3	135	MHC
12/12/2006	32201-N2	400	Quick Mud
12/13/2006	RBLD-5	325	MHC
12/15/2006	32201-N5	400	Quick Mud
1/11/2007	30892-85AC	150	MHC
2/6/2007	32201-N70	320	Quick Mud

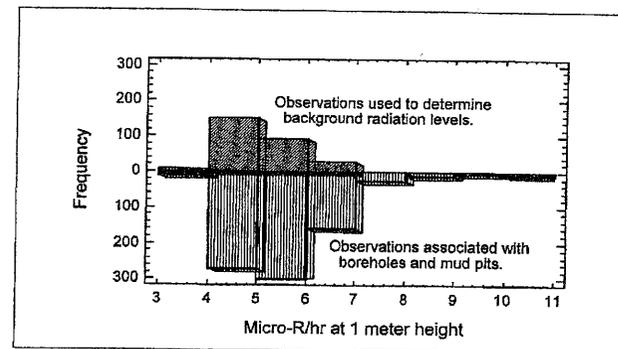


Figure 5. Comparison of gamma radiation distributions.

Table 2. Summary of radiochemical analyses for 3 samples, analyzed by DSHS.

Analytical Parameters	Radionuclide Activities and Associated Uncertainties, reported in pCi/gm		
	Sample UEC030907A	Sample UEC030907B	Sample UEC030907C
	<i>Background (Surface 6 µR/hr)</i>	<i>Mixed Mud Pit Materials (Surface 8-24 µR/hr)</i>	<i>Drilling Mud/Cuttings (Surface 24 µR/hr)</i>
Ra-226 †	0.6 ± 0.2	3.9 ± 0.3	18 ± 1
Alpha Spectroscopy			
U-234	< 1.0	3.9 ± 0.2	17 ± 1
U-235	< 1.0	< 1.0	< 1.0
U-238	< 1.0	3.8 ± 0.2	17 ± 1
Total Uranium	< 2.0	8.0 ± 0.4	35 ± 1
Gamma Spectroscopy			
K-40	8.8 ± 0.3	6.5 ± 0.9	7.2 ± 0.9
Pb-212	0.8 ± 0.2	0.5 ± 0.1	--
Bi-214	--	2.9 ± 0.2	12 ± 1
Pb-214	--	3.2 ± 0.2	11 ± 1
Ra-226	< 2.8	8.5 ± 1.0	35 ± 3
U-238	< 1.8	4.0 ± 0.6	15 ± 1

† Method EPA 903.1

Sampling Results

The composite sample representing native soil and the undisturbed, background (ambient) radiation levels, had radionuclide contents below the detection limits of gamma and alpha spectroscopy. The radium-226 content was 0.6 ± 0.2 pCi/gm (Table 2).

- The composite sample representing a single backfilled mud pit, comprised of mixed light-colored materials, had radionuclide contents above the detection levels of the analytical methods (except for U-235). The Ra-226 content was 5.5 times higher than the native soil sample; even so, it was not enough to exceed the regulatory threshold of 5 pCi/gm over background, averaged over a 100 m² area and averaged over the first 6 inches of soil below the surface (Texas Department of State Health Services, 2007).
- The composite sample obtained from the small area producing the highest gamma radiation levels (mixed subsoil/drilling mud that may potentially contain cuttings material) had radionuclide contents that were above the method detection levels (except for U-235). The Ra-226 content was 29 times higher than the native soil. This indicates there is a very high probability that drilling mud/cuttings were left on/near the surface at this location.

Conclusions and Recommendations

- Background (ambient) gamma radiation levels within the surveyed areas ranged between 4 and 7 micro-R/hr at 1 meter height.

- Gamma radiation levels higher than 7 micro-R/hr indicate radioactive materials may have been brought to the surface or are buried close to the surface.
- Results from samples taken in one area with elevated gamma radiation levels strongly suggest that radioactive materials were associated with the higher radiation observations and imply that radioactive drilling muds/cuttings were very likely left on and/or near the surface at a limited number of mud pits.
- The extent of elevated gamma radiation levels within the surveyed areas is minimal, relative to the land area disturbed by the exploration activities, and not sufficient to pose a radiation exposure hazard.
- The inclusion of alpha/beta radiation measurements in future radiation surveys is warranted, since elevated levels of alpha/beta radiation can also help identify where uranium ore materials have been left on the surface.
- It is unlikely that the relatively elevated radiation levels associated with some mud pits, or the radionuclide concentrations in drilling mud/cuttings that may have been left on the surface, present a radiological risk; however, ingestion of those radioactive materials (including inhalation of airborne dust) from this limited number of mud pits should be avoided.
- A follow-up radiation survey is recommended for the mud pit/borehole areas with elevated gamma radiation levels after those areas have been mitigated by UEC (remedial action required by Notice of Violation No. 080A, issued on March 13, 2007).

References

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