



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

September 8, 2006

Larry L. Teahon
Manager, Health Safety and
Environmental
Crow Butte Resources, Inc.
86 Crow Butte Road
Post Office Box 169
Crawford, NB 69339-0169

SUBJECT: NRC INSPECTION REPORT 040-08943/06-001

Dear Mr. Teahon:

This refers to the inspection conducted on August 15-17, 2006 at the Crow Butte Resources facility in Crawford, Nebraska. The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examinations of procedures and representative records, observations of activities, and interviews with personnel. Details of the inspection were presented to you at the exit briefing conducted on August 17, 2006. No violations were identified, and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact the undersigned at (817) 860-8191 or Mr. Robert J. Evans, Senior Health Physicist, at (817) 860-8234.

Sincerely,

/RA/

D. Blair Spitzberg, Ph.D., Chief
Fuel Cycle and Decommissioning Branch

Docket No.: 040-08943
License No.: SUA-1534

Enclosure:
NRC Inspection Report
040-08964/06-001

Crow Butte Resources, Inc.

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 040-08943

License No.: SUA-1534

Report No.: 040-08943/06-001

Licensee: Crow Butte Resources, Inc.

Facility: Crow Butte Facility

Location: Dawes County, Nebraska

Dates: August 15-17, 2006

Inspectors: Robert J. Evans, P.E., C.H.P., Senior Health Physicist
Fuel Cycle & Decommissioning Branch

Stephen J. Cohen, P.G., Project Manager
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

Accompanied by: Robert G. Lukes, Health Physicist
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

Approved by: D. Blair Spitzberg, Ph.D., Chief
Fuel Cycle & Decommissioning Branch

Attachment: Supplemental Inspection Information

EXECUTIVE SUMMARY

Crow Butte Resources, Inc.
NRC Inspection Report 040-08943/06-001

This inspection included a review of site status, management organization and controls, site tours, radiation protection, environmental monitoring, transportation and radwaste activities, emergency preparedness, and followup of a previous NRC inspection finding. In summary, the licensee was conducting operations safely and in accordance with regulatory and license requirements.

Management Organization and Controls

- The organizational structure and staffing levels were sufficient for the work in progress at the facility. The licensee's Safety and Environmental Review Panel evaluations were conducted in accordance with requirements of the performance-based license. The licensee conducted As Low As Reasonably Achievable program reviews and pond inspection audits as required by the license (Section 1).

In-Situ Leach Facilities

- Site operations were being conducted in accordance with applicable performance-based license conditions. Radiation and area postings met requirements. A pond leak was reported to the NRC in accordance with license requirements, and the licensee took corrective actions to repair the leak (Section 2).

Radiation Protection

- The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license. Occupational exposures were below the annual regulatory limit (Section 3).

Environmental Protection and Maintaining Effluents from Materials Facilities As Low As Reasonably Achievable

- The licensee had not released licensed material into the environment in quantities exceeding regulatory limits. Wells were being sampled in accordance with site procedures. Wellfields in excursion status were properly reported to the NRC as required by the license. The licensee maintained records of spills, and the inspectors confirmed that none of the spills were reportable to the NRC (Section 4).

Transportation of Radioactive Material and Radioactive Waste Management

- The licensee was conducting transportation and waste disposal operations in accordance with license and regulatory requirements (Section 5).

Emergency Preparedness, Fire Protection, and Emergency Procedures

- The licensee had established an emergency preparedness program that included fire, spill, and accident instructions (Section 6).

Follow up

- The inspectors reviewed a previously identified Inspection Followup Item involving the licensee's well sampling protocols. The licensee changed its field practices, and the Item was closed (Section 7).

Report Details

Site Status

At the time of the inspection, the licensee was recovering uranium through in-situ leach operations in a number of wellfields. The groundwater in Mine Unit 1 had been restored, but surface reclamation activities were still in progress. Mine Units 2-4 were in groundwater restoration mode. Mine Units 5-9 were in operation, although Mine Units 8 and 9 were still being expanded. Mine Unit 10 was being constructed, and Mine Unit 11 was in the planning stages. Uranium processing and drying operations were in progress at the main processing facility.

The licensee has three solar evaporation ponds. Each pond is approximately 900-feet by 300-feet by 17-feet deep. Based on under-drain sampling results, in early May 2006, the inner liner of Pond 4 was determined to be leaking. The NRC was notified by letter dated June 1, 2006. Repairs were conducted during June-July 2006. At the time of this inspection, Pond 4 under-drain conductivity was still elevated but was trending down. The licensee is currently flushing the underdrain system to remove high conductivity water and continues to monitor the pond under-drains for verification of the adequacy of the liner repairs.

In the near future, the licensee plans to submit an application to the NRC for two offsite satellite facilities. The construction and operation of these new facilities may require modification of the main processing facility, including installation of new equipment and changes in plant flow rates.

1 Management Organization and Controls (88005)

1.1 Inspection Scope

The purposes of this portion of the inspection were to ensure that the licensee had established an organization to administer the technical programs and to ensure that the licensee had established programs to perform internal reviews, self-assessments, and audits.

1.2 Observations and Findings

The licensee's NRC-approved corporate organization structure is illustrated in Figure 5.1-1 of the license application. The inspectors compared the actual structure to the license application requirements. All positions were filled, except one. The licensee elected to eliminate the position of senior vice president of operations and combine the duties of the position with the president's position. Instead of reporting to the senior vice president, the mine manager now reports directly to the company president. The licensee formally eliminated the senior vice president position through its Safety and Environmental Review Panel (SERP) process in early August 2006. The inspectors determined that this organizational change had no impact on day-to-day operations at the site.

At the time of the inspection, the licensee had 52 employees with a budget of 61 full-time employees. The licensee was actively recruiting for several open positions

including geologists and wellfield operators. The licensee also had 19 contractor employees for drilling and heavy equipment operations. In summary, the licensee had sufficient staff to implement the radiation protection and groundwater monitoring programs.

License Condition 9.4 of the performance-based license requires, in part, that the licensee establish a SERP. The SERP is required to ensure that changes to the facility, procedures, and tests or experiments, which have not been reviewed by the NRC, do not have adverse effects on systems, structures, components, and the operation of the facility. The inspectors reviewed the licensee's SERP evaluations performed during 2005-2006. The SERP reviews included approval of new wellfields, an experiment using hydrogen peroxide to wash the uranium product to remove residual vanadium, and deletion of the senior vice president position from the NRC-approved organizational structure. The inspectors concluded that the evaluations were technically adequate and provided sufficient detail to support the proposed changes or experiments.

Annual As Low As Reasonably Achievable (ALARA) program reviews are required by License Condition 9.12 and License Application Section 5.4.4. The annual ALARA audit for 2005 was conducted in March 2006 by a third-party contractor. A downward trend in total exposures was noted, mostly as a result of a reduction in radon progeny exposures over time. The audit identified positive actions taken by the licensee including installation of water-filled shielding blocks along the wall between the main processing facility and adjacent offices. This action resulted in a noticeable reduction in ambient radiation levels in these offices. Further, the licensee installed a splash guard around the yellowcake washing belt, resulting in a significant reduction of spilled yellowcake material. In summary, the licensee's ALARA audit was determined to be a thorough review of licensed activities.

License Condition 11.4 and License Application Section 5.8.8.3 specify that the licensee perform and document inspections of its onsite evaporation ponds. The most recent annual pond inspection report was submitted to the NRC on October 28, 2005. The inspection was conducted by a third-party representative for the licensee. The auditor determined that the three solar evaporation ponds and two research & development ponds "are operating in the constraints of the engineering design."

1.3 Conclusions

The organizational structure and staffing levels were sufficient for the work in progress at the facility. The licensee's SERP evaluations were conducted in accordance with requirements of the performance-based license. The licensee conducted ALARA program reviews and pond inspection audits, as required by the license.

2 In-Situ Leach Facilities (89001)

2.1 Inspection Scope

The inspection objectives were to determine if operations were being conducted in accordance with regulatory and license requirements.

2.2 Observations and Findings

Site tours were conducted to observe in-situ leach operations in progress. Areas toured included the main processing facility, the reverse osmosis facility, wellfields, selected header houses, and evaporation ponds. The inspectors observed the condition of plant equipment, fences, and gates. Plant operating parameters (flow, pressure) were compared to licensed limits. The inspectors concluded that operations were being conducted in accordance with license requirements and established procedures.

The inspectors compared dryer operations to the safety requirements listed in License Condition 10.8. In particular, the licensee demonstrated the operability of the emission control equipment. The inspectors concluded that the dryer's safety features were in service and were being maintained in accordance with license requirements.

License Condition 10.5 states that the annual yellowcake production shall not exceed 2.0 million pounds. The licensee stated that its yellowcake production during 2005 was 0.832 million pounds.

During site tours, the inspectors performed independent radiological surveys using two NRC-issued Ludlum Model 2401-P survey meters (Serial Numbers 21190G and 016297G). The inspectors did not observe any area that was greater than five millirems per hour that the licensee had not previously identified and posted as a radiation area. The only area posted as an airborne radioactivity area was the dryer room during packaging operations. The inspectors determined that the licensee was posting radiation areas as required by 10 CFR 20.1902. Further, the facility entrances were posted as required by License Condition 9.11.

On May 5, 2006, the licensee notified the NRC that Evaporation Pond 4 was determined to be leaking. On June 1, 2006, the licensee submitted a 30-day report regarding the causes of the leak as well as remedial actions being taken. The cause of the leak was a faulty patch weld that failed due to liner movement. Wave action caused water in the pond to seep past the liner into the under-drains where leakage was detected during routine monitoring. The licensee temporarily cold welded the patch, and then contracted a liner company to permanently repair the liner. At the time of the inspection, the liner had been repaired, and the licensee was refilling the pond. NRC staff reviewed the licensee's corrective actions and inspected Evaporation Pond 4. NRC staff determined that the licensee appropriately reported the leak and took corrective actions as required by License Condition 11.4.

2.3 Conclusions

Site operations were being conducted in accordance with applicable performance-based license conditions. Radiation and area postings met requirements. A pond leak was reported to the NRC in accordance with license requirements, and the licensee took corrective actions to repair the leak.

3 Radiation Protection (83822)

3.1 Inspection Scope

The purpose of this portion of the inspection was to determine if the licensee's radiation protection program was in compliance with license and 10 CFR Part 20 requirements.

3.2 Observations and Findings

a. Occupational Dose Assessment

The licensee's occupational dose monitoring program was reviewed to ensure that no worker exceeded the occupational dose limits specified in 10 CFR 20.1201. The monitoring program consisted of measurement of both external and internal exposures. External exposures were measured by optically stimulated dosimeters, and internal exposures were calculated from natural uranium and radon progeny air particulate samples.

The licensee's records for calendar years 2005-2006 were reviewed. The records indicate that the highest external exposure was 425 millirems with an average employee dose of 118 millirems. The average external exposure for 2005 was comparable to the calendar year 2004 average exposure of 121 millirems. To date, the calendar year 2006 average monthly external exposure was consistent with the external exposure levels measured during 2005.

The licensee performed monthly in-plant air sampling for uranium. Air samples were also obtained by the licensee during yellowcake packaging operations. The licensee's average sample results for 2005 were less than 1-percent of the derived air concentration value for natural uranium. The calendar year 2006 sample results were consistent with 2005 sample results.

Radon progeny sampling was conducted monthly by the licensee. The action level of 0.08 working levels was not exceeded in calendar year 2005. The average exposure was 0.101 working level months, or 3-percent of the annual limit of 4 working level months. In calendar year 2005, the highest measured exposure was 0.213 working level months, or 5-percent of the regulatory limit. The exposure rates to radon progeny have decreased by approximately 50-percent since 2004. Further, the exposure rates to radon progeny have been trending downward for several years. The licensee was unaware of any specific action that may have caused the reduction in radon progeny exposure, although possible reasons include increased worker awareness of the hazards and increased building ventilation rates as compared to previous years.

To determine the total effective dose equivalent for workers, the licensee combined the external exposure dosimeter monitoring data, internal exposures to natural uranium obtained from air sampling, and radon progeny exposures obtained from air sampling. During calendar year 2005, the highest total effective dose equivalent exposure was 675 millirems, and the average total effective dose equivalent was 274 millirems. Regulation 10 CFR 20.1201(a) specifies an annual limit of 5,000 millirems. Annual

exposures for 2005 were below the regulatory limit. Further, the average worker total effective dose equivalent exposure in 2005 was less than the average exposure in 2004 primarily because of the decrease in radon progeny exposures.

The urine bioassay program was reviewed to determine compliance with License Conditions 9.3, 9.12, 11.8, and 11.9 requirements. Action levels were defined using Table 1 of Regulatory Guide 8.22, "Bioassay at Uranium Mills." The licensee collected bioassay samples to assess the potential for intake of soluble uranium. The licensee's bioassay records indicated that no individual exceeded the lowest action level of 15 micrograms per liter during 2005 and the first half of 2006.

b. Radiation Protection Programs

License Application Section 5.8.6 requires routine sampling of clean area offices and lunch rooms for total and removable contamination, weekly sampling of the restricted area, quarterly unannounced spot checks of individuals, quarterly spot checks of vehicles and equipment, and routine surveys of respirators prior to reuse. Of the samples collected in 2005-2006, only one sample exceeded the respective action level. One individual was identified with clothing contamination in excess of the action level. Corrective actions included decontamination of the worker, retraining of the worker, and discussions with the worker's supervisor.

Quarterly gamma radiation surveys are required by License Application Section 5.8.2.1 in worker occupied stations and areas such as tanks and filters. Several areas exceeded the definition of a radiation area (greater than or equal to 5 millirems per hour) including the areas around injection filters and ion exchanger columns. During plant tours, the inspectors noted that these areas had been posted as radiation areas.

Radiation work permits (RWPs) are required when employees conduct activities of a non-routine nature where there is the potential for significant exposure to radioactive materials and for which no operating procedure exists. The RWPs for 2005-2006 were reviewed. The RWPs were determined to provide sufficient instructions for protective equipment and radiological monitoring requirements.

License Application Section 5.4.1 and 5.4.2 specifies that daily and weekly inspections by the radiation protection staff be conducted to observe general radiation control practices. Also, inspections were required for the evaporation and research & development ponds. Extensive documentation of the daily and weekly inspections were being maintained by the licensee.

Radiation worker training program records were reviewed. Two workers' records were chosen at random and thoroughly reviewed. NRC staff determined that the licensee's training program was in compliance with License Condition 9.3 and 10 CFR 19.12 requirements. The training program for individual respiratory protection equipment was also evaluated by NRC inspectors. The program satisfied the requirements of 10 CFR 20.1703.

Instrument calibration records were reviewed and were found to be in compliance with License Condition 11.6 requirements. Several random spot checks were conducted on

instruments in use in the plant. All instruments were found to be in good physical condition with up-to-date calibration stickers properly attached. Spot checks of site personnel using instruments in the plant indicated that they knew how to use the instrument, including source checking the instrument prior to use.

3.3 Conclusions

The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license. Occupational exposures were below the annual regulatory limit.

4 **Environmental Monitoring and Maintaining Effluents from Materials Facilities ALARA (87102 and 88045)**

4.1 Inspection Scope

The environmental and effluent monitoring programs were reviewed by the inspectors to assess the effectiveness of the licensee to monitor the impacts of site activities on the local environment.

4.2 Observations and Findings

a. Environmental Monitoring

The effluent and environmental monitoring program requirements are specified in License Condition 11.3, and the reporting requirements are specified in License Condition 12.1. The two semi-annual environmental monitoring reports for 2005 were reviewed during the inspection. The semi-annual reports were submitted to the NRC in a timely manner and provided relevant data for the facility.

The semi-annual reports included the status of wells in excursion status, production water pressures and flow rates, and waste water flow rates. All reported data was within licensed flow and pressure limits. The inspectors found two minor discrepancies between the actual pressure data collected versus the data documented in the reports. In response, the licensee stated that it would submit a corrected data sheet as an addendum to the next semi-annual report.

The environmental monitoring program consisted of air particulate, radon, groundwater, surface water, sediment and ambient gamma exposure rate sampling. The licensee has seven monitoring stations at various locations around the licensed property including one background station.

The seven stations were used to measure natural uranium, radium-226, and lead-210 concentrations in air. Radon-222 was also measured using track-etch detectors. The sample results ranged from less than 1-percent to 11-percent of the respective effluent concentration limits specified in 10 CFR Part 20, Appendix B, Table 2, for air releases. In general, the perimeter stations sample results were similar to the background station sample results.

The licensee measured direct radiation levels at the seven sample stations using dosimeters that were exchanged quarterly. The annual ambient gamma radiation levels ranged from 29-38 millirems and were comparable to background levels for 3 of 4 quarters during 2005. (The dosimeter from the background station for the third-quarter of 2005 was lost; therefore, direct comparison of the perimeter sample results to the background station was not possible for this quarter.)

Water supply wells within 1-kilometer of wellfields were sampled quarterly for natural uranium and radium-226 concentrations. Eighteen wells were sampled in 2005. The sample results were less than 5-percent of the effluent concentration limits for water.

Surface water was collected quarterly from each stream and water impoundment in the wellfield areas. The samples were analyzed for natural uranium and radium-226 concentrations. The licensee collected samples from two streams and two impoundments during 2005. The sample results were less than 17-percent of the effluent concentration limits for water.

Sediment samples were collected annually at locations where water sampling was conducted. The samples were analyzed for natural uranium, radium-226, and lead-210 concentrations. Seven sediment samples were collected in 2005. No specific limit has been established for sediment samples, but the data is used for trending purposes.

The inspectors concluded that the potential radiation dose to any member of the public from licensed material during 2005 was below the 100 millirem per year annual dose limit specified in 10 CFR 20.1301(a).

b. Groundwater and Environmental Water Sampling

NRC staff reviewed well monitoring records and observed sampling of one well to determine if groundwater samples were being collected in accordance with standard industry practices and the licensee's standard operating procedures. A review of monitoring records indicated that the licensee collected groundwater samples using multiple sampling procedures including:

- Purging one and a half well volumes and collecting four sets of measurements of water quality parameters,
- Purging at least three well volumes and collecting one set of water quality measurements before collecting the sample, and
- Pumping a well almost dry, allowing it to recharge, and then collecting one set of water quality measurements prior to collecting a sample.

NRC staff observed the licensee's staff sample well CM7-15. The licensee measured the water level, purged one and a half casing volumes, collected water quality measurements, and collected the water sample according to site procedures. NRC staff concluded that the licensee was sampling wells in accordance with site procedures. A random review of well sampling data sheets indicated that the licensee was collecting

the necessary data to determine compliance with its procedures and assess the representativeness of the sample.

c. Wellfield and Excursion Monitoring

License Condition 11.2 specifies the monitoring well sampling requirements and the criteria for placing a well on excursion status. On April 7, 2006, the licensee notified the NRC that well CM8-21 was being removed from excursion status. Well CM8-21 was originally placed on excursion status on January 18, 2006, because chloride and alkalinity levels exceeded the multiple parameter upper control limits. Weekly samples collected between February 28 and April 4, 2006, indicated that chloride and alkalinity were below the multiple upper control limits; therefore, the well was taken off excursion status. The inspectors reviewed the licensee's records and concurred with the licensee's decision.

NRC staff reviewed groundwater monitoring data collected between September 2005 and August 2006 to determine if the licensee was correctly identifying and reporting excursions. The inspectors selected monitoring data at random and examined the reports to confirm the licensee's automated excursion reporting system was functioning properly and to identify any excursions that were not reported. Data from known excursions was also reviewed to ensure that the monitoring frequency had been increased according to License Condition 11.2 requirements. The inspectors concluded that the licensee was correctly identifying and reporting excursions.

License Condition 12.2 requires, in part, that until the license is terminated, the licensee shall maintain documentation of unplanned releases of source material, 11e.(2) byproduct material, or process chemicals. The license also lists the reporting requirements. The inspectors reviewed the licensee's spill records to determine if the licensee was in compliance with the reporting requirements. The licensee recorded nine spills in 2005 and four spills in the first half of 2006. Documentation of each event included a reportability assessment. Most spills were injection well leaks. The licensee's final assessment concluded that none of the spills were reportable to the NRC. Based on the information provided in each assessment, the inspectors concurred with the licensee's conclusions.

4.3 Conclusions

The licensee had not released licensed material into the environment in quantities exceeding regulatory limits. Wells were being sampled in accordance with site procedures. Wellfields in excursion status were properly reported to the NRC as required by the license. The licensee maintained records of spills, and the inspectors confirmed that none of the spills were reportable to the NRC.

5 Transportation of Radioactive Materials and Radioactive Waste Management (86740 and 88035)

5.1 Inspection Scope

The objectives of the inspection were to determine if transportation and disposal activities were being conducted in compliance with regulatory requirements.

5.2 Observations and Findings

License Condition 9.7 allows the licensee to dispose of 11e.(2) byproduct material at a site licensed to receive such material. During December 2005, the licensee shipped three 30-yard containers of waste material to a licensee in Wyoming for disposal. The inspectors reviewed the licensee's shipping papers for these disposals. The papers included radiological surveys of the packages and transport vehicles. The inspectors also confirmed that the designated shipper (the operations superintendent) had received U.S. Department of Transportation hazardous material training, most recently during April-May 2006.

License Condition 9.7 also specifies that waste disposal agreements be established. The licensee had two disposal agreements in place, one with a site in Utah and the second with a site in Wyoming. The agreements were up-to-date at the time of the inspection.

5.3 Conclusions

The licensee was conducting transportation and waste disposal operations in accordance with license and regulatory requirements.

6 Emergency Preparedness, Fire Protection, and Emergency Procedures (88050, 88055, and 88064)

6.1 Inspection Scope

The objective of this portion of the inspection was to ensure that the licensee's emergency preparedness program was being maintained in a state of readiness.

6.2 Observations and Findings

The inspectors reviewed the licensee's emergency preparedness program. The program included emergency instructions regarding personnel injury, fire and spills. The licensee's emergency response program was determined to be adequate for emergencies that could involve radioactive material.

On July 31, 2006, the licensee placed a courtesy telephone call to the NRC Project Manager and the NRC Emergency Operations Center regarding the possibility of plant shut down and evacuation due to wildfires. The licensee stated that local emergency officials informed them that wildfires may advance toward the facility and that they would

have two hours to leave if an evacuation order was issued. The licensee informed the NRC staff that they could completely deactivate and evacuate the facility within one hour. On August 1, 2006, the threat of an evacuation order was lifted due to overnight rains.

As a result of the licensee's potential evacuation, NRC staff reviewed the license application and emergency manual to determine if fire was an analyzed condition and if the licensee had written emergency fire procedures. NRC staff determined that fire was not an analyzed condition in the license application. However, written fire procedures were found in the licensee's Emergency Manual, Section 3.0, "Fire and Explosions." This procedure addresses fires in the processing plant and range fires that could encroach upon the processing facility.

By letter dated March 21, 2006, the licensee notified NRC staff that it was no longer under the jurisdiction of the Mine Safety and Health Administration, but was now under the jurisdiction of the Occupational Safety and Health Administration (OSHA). To assess compliance with OSHA regulations, the licensee requested a full service survey by the Nebraska Department of Labor which was performed on July 13, 2006, by a Nebraska Department of Labor contractor. Survey results indicated that the licensee had to address 20 items including non-radiological fire safety issues, lockout/tagout procedures, electrical safety, personal protective equipment (related to chemicals), and equipment safety. The licensee responded in writing to the OSHA report on August 15, 2006.

6.3 Conclusions

The licensee had established an emergency preparedness program that included fire, spill and accident instructions.

7 **Followup (92701)**

7.1 (Closed) Inspector Follow up Item (IFI) 040-08943/0501-01: Followup of Licensee's Procedures and Protocols for Well Sampling

The inspection report dated October 20, 2005, described an Inspection Follow-up Item regarding well sampling at the facility. NRC staff determined during the September 2005 inspection that the licensee was not collecting sufficient information to determine compliance with site procedures and standard industry practices. Specifically, post-sampling water levels were not being collected to assess the impact of well draw-down during well purging operations.

During the August 2006 inspection, NRC staff noted that the licensee was collecting post-sampling water level data. NRC staff reviewed this data at random; calculated draw-downs were between 2 and 7 percent. Such draw-downs are minimal and would not likely impact sample representativeness; although ideally, draw-downs should be kept below 5 percent. NRC staff concluded that the licensee sufficiently addressed this issue through a change in field practices.

8 Exit Meeting Summary

The inspectors presented the preliminary inspection results to the licensee's representatives at the conclusion of the onsite inspection on August 17, 2006. Representatives of the licensee acknowledged the findings, as presented. During the inspection, the licensee did not identify any information reviewed by the inspectors as propriety.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Crawford, Manager, Project Development
R. Grantham, Radiation Safety Officer
J. Stokey, Mine Manager
L. Teahon, Manager, Health Safety and Environmental

ITEMS OPENED, CLOSED, AND DISCUSSED

Open

None

Closed

040-08943/0501-01 IFI Followup of licensee's procedures and protocols for well sampling

Discussed

None

INSPECTION PROCEDURES USED

IP 83822	Radiation Protection
IP 86740	Transportation of Radioactive Material
IP 87102	Maintaining Effluents from Materials Facilities ALARA
IP 88005	Management Organization and Control
IP 88035	Radioactive Waste Management
IP 88045	Environmental Monitoring
IP 88050	Emergency Preparedness
IP 88055	Fire Protection
IP 88064	Emergency Procedures
IP 89001	In-Situ Leach Facilities
IP 92701	Followup

LIST OF ACRONYMS USED

ALARA	as low as is reasonably achievable
IFI	Inspection Followup Item
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety and Health Administration
RWP	radiation work permit
SERP	Safety and Environmental Review Panel