U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Report No. 40-3453/80-02 License No. SUA-917

Licensee: Atlas Minerals
Moab, Utah Docket No. 40-3453

Inspection conducted: June 23-24, 1980

Inspectors: Lorenzo Wilborn 7/11/80
Lorenzo Wilborn, Radiation Specialist Date

C L Cain 7/14/80
C. L. Cain, Radiation Specialist Date

Noel M. Shopenn 7/11/80
N. M. Shopenn, Radiation Specialist Date

M J Roberds 7/15/80
M. J. Roberds, Reactor Inspector Aide Date

Approved by: Glen D. Brown 7/15/80
Glen D. Brown, Chief Fuel Facility and Material Safety Branch Date

Inspection Summary

Inspection on June 23-24, 1980 (Report No. 40-3453/80-02)

Areas Inspected: Routine, unannounced inspection of uranium mill operation including organization and administration; internal review and audit; training; facilities and equipment; maintenance; internal exposure control; external exposure control; environmental monitoring; fire protection; posting, labeling and reports; waste management; independent measurements; and licensee action on previously identified noncompliance items. The inspection involved twenty-six (26) inspector-hours on site by two NRC inspectors and twenty (20) hours on site by two NRC inspectors in training status.

Results: Of the thirteen areas inspected, no items of noncompliance or deviations were identified in twelve (12) areas; one (1) item of noncompliance was identified in one (1) area (infraction - not performing monthly background sampling for Rn-222, remote from the site and not analyzing vegetation foliage for Ra-226, See, Paragraph 10).

DETAILS

1. Persons Contacted

*Wayne Jensen, General Mill Manager
*R. E. McCormick, Mill Superintendent
*Dale Edwards, Plant Metallurgist and Radiation Safety Supervisor
*Larry Jacobs, Security and Environmental Coordinator
James N. Phillips, Safety Engineer
*Douglas White, Maintenance Superintendent
*Sid Shatley, Personnel Manager
David White, Accounting Supervisor

Other

*Don Mitchell, Bureau of Radiation and Occuptional Health, State of Utah

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

a. (Closed) Noncompliance (40-3453/79-01): This item involved improper selection of respiratory equipment. The inspectors noted that respiratory equipment had been selected during the period of this inspection such that the protection factor was greater than the multiple by which the peak concentration exceeded the limit in Appendix B to Part 20.

b. (Closed) Noncompliance (40-3453/79-01): This item involved not evaluating weekly by means of a documented tailings area inspection, the effectiveness of measures to minimize dispersal of blowing tailings. The inspectors reviewed records that showed tailings area inspections were conducted, documented and the effectiveness of measures to minimize dispersal of blowing tailings were evaluated during this inspection period as required.

c. (Closed) Noncompliance (40-3453/79-01): This item involved not conducting surface contamination surveys in the change rooms. The inspectors reviewed records that showed that bi-weekly surface contamination surveys had been conducted during this inspection period as required.

d. (Closed) Noncompliance (40-3453/79-01): This item involved failure to document weekly inspections indicating that the moisture content of the ore and/or weather conditions were controlling dusting from the ore piles. The inspectors reviewed records that showed documented weekly inspections, indicating that the moisture content of the ore and/or weather conditions were controlling dusting from the ore piles, were conducted during this inspection period as required.

3. Organization and Administration

The inspectors discussed the organization and administration with Atlas Minerals representatives and noted that the Minerals Division Office has been moved from Denver, Colorado, to Moab, Utah. The inspectors also noted that Atlas Minerals is a Division of Atlas Corporation, Corporate Office located in Princeton, New Jersey. The inspectors noted that Mr. Richard Weaver is employed as President of Minerals Division replacing Mr. A. E. Dearth, who was employed in that capacity during the previous inspection. The assigned individuals and titles at the time of the inspection are noted in Paragraph 1, however, Mr. Larry Campbell will be replacing Mr. James N. Phillips as Safety Engineer as of July 7, 1980.

4. Internal Review and Audit

The inspectors noted that the Radiation Safety Supervisor reviews the monthly Radiation Reports as an audit of control of radiation hazards associated with the mill operations. The inspectors also noted that the Radiation Safety Supervisor would send the results of his reviews to the General Mill Manager when warranted.

5. Training

The inspectors discussed radiation training procedures with the Personnel Manager and reviewed selected training records. It was noted that for initial training, new employees are required to read and sign a radiation indoctrination, which includes a written examination. After four weeks of on the job training, the employee is re-examined verbally by his supervisor. The radiation indoctrination form is also signed by the Personnel Manager or Radiation Safety Supervisor after the initial training and the employee's supervisor after the on the job training to indicate the employee's understanding of the radiation safety requirements. Employees attend monthly safety meetings in which radiation safety matters are discussed. An annual review of radiation safety is conducted and documented for all workers. Further, there are formal procedures for instruction of female employees pursuant to NRC Regulatory Guide 8.13.

6. Facilities and Equipment

The inspectors toured the mill, which was in operation, to verify that equipment and facilities were in accordance with applicable license requirements. The licensee representative stated, and the inspectors verified, that there were no changes to the mill circuit. Discussions and record reviews showed that except for maintenance shutdowns, the mill can be operated twenty-four (24) hours per day, seven (7) days per week at a throughput of 1200-1300 tons of ore per day. Discussions and record reviews further showed that the average mill throughput did not exceed 850 metric tons of barreled U_3O_8 per year. There was purportedly no incidents,

accidents, thefts or losses of licensed material. Instrumentation related to the radiation protection program including air samplers and portable survey instruments were observed to be operable and in calibration.

7. Maintenance

The inspectors reviewed work control procedures to verify that control of maintenance activities were as required by the Safety Analysis Report. Nonroutine activities with potential of significant exposure to radiation were initiated by a work permit signed by the Radiation Safety Supervisor or a Superintendent. Licensee representative reported that no major maintenance activities had occurred during the period of this inspection.

8 Radiation Protection Program-Internal

The inspectors discussed the licensee's program for control of intakes of radioactive materials in the restricted area, which is described in the license application. Licensee records showed that general air samples are taken in 16 locations on a monthly basis and 7 locations on a weekly basis. Routine breathing zone samples are collected for 4 hours per month in each of 5 areas. Nonroutine breathing zone samples are collected as stipulated on work permits. Licensee records further showed that neither the 40-hour control measure nor the quarterly limits for ore dust were exceeded during the period of this inspection. The annual limit for radon (4 WLM) was not exceeded in that licensee's records showed a maximum of .004 WLM.

The licensee utilizes respiratory protective equipment as a precautionary procedure to limit concentrations of radioactive materials in air to levels below those which delimit an airborne radioactivity area. The inspectors reviewed the respiratory protection program and found it to be in compliance with 10 CFR 20.103(c) and Regulatory Guide 8.15 requirements for this inspection period.

The inspectors reviewed the in-vivo and urinalysis bioassay programs. The in-vivo measurements had not been performed thus far this year. A licensee representative reported that Helgeson Nuclear Services, Inc. is expected to arrive and perform this function at any day now. Urinalysis samples are collected from yellowcake and maintenance workers every two weeks. Review of urine bioassay data for the period during this inspection showed that all data was below 15 micrograms uranium per liter.

9. Radiation Protection Program-External

The radiation protection program for the control of external radiation was reviewed to determine compliance with the licensee's procedures and pertinent regulations. Licensee records, vendor reports, indicated that TLD badges supplied by Radiation Detection Company are provided to workers on a quarterly

exchange schedule. External exposure data were reviewed and no exposures were noted in excess of 10 CFR 20.101 limits.

10. Environmental Monitoring

License Condition 37 states that notwithstanding the provisions of Section 5.5.5.1 of the licensee's safety analysis report revised August 28, 1975, the licensee shall implement the environmental monitoring programs specified in Table 6.4 of NUREG 0453. The inspectors discussed the programs for air, soil, vegetation and water with the licensee representative and reviewed sampling results subsequent to the last inspection. The inspectors noted that concentrations of natural uranium, thorium-230, radium-226, and radon-222, in ambient air, ground water, surface water and soil were less than the applicable MPCs for unrestricted areas. A review of representative records revealed that the licensee has conducted the program in compliance with License Condition 37, except the following which constituted non-compliance: monthly background sampling remote from the site was not performed and vegetation foliage collected at offsite cattle grazing areas during the grazing season was not analyzed for Ra-226.

11. Fire Protection and Prevention

The inspectors discussed the fire protection and prevention program with the Safety Engineer and noted that the program includes equipment consisting of 82 portable ABC purple K extinguishers (20 & 30 pound units), 3 ABC dry chemical extinguishers (150 pound units), sprinkler systems in the main mill building, laboratories and administrative offices, automatic water and manual foam sprinkler systems actuated by heat detecters in the SX building. The sprinkler systems' water supply is an 8 inch main fed by a 500,000 gallon high tower tank plus a 250,000 fire-only tank. Additionally, there are 11 fire hydrants on site with a 300 foot hose at each station. The mill is located in the Moab fire district in case backup is necessary. The Moab fire truck response time has been determined as 7 minutes. A licensee representative reported that the insurance underwriter (Kemper) had conducted an inspection in May 1980 and felt that additional hydrants are needed. The licensee purportedly has planned for 5 more. There is 30 minutes of training per month which includes classes as well as exercises. There is an alarm sounded every 3 months and the Moab fire Department responds several times per year.

12. Waste Management

The inspectors visited the tailing disposal area noting the additions to the tailings pond-embankment system and also noting that the embankment appeared to be well maintained. The licensee was maintaining at least six feet of freeboard between the embankment crest and the operating level of the ponded liquid as required. The licensee was maintaining a minimum beach of 150 feet between the ponded liquid and the dam embankment, except

on the west-south-west bank, however, a time extension of until September 1980 had been granted for the licensee to develop this section of beach and the inspectors noted that the development was well underway. A review of records showed that the licensee conducts and documents at least one inspection of the tailings embankment per day as required by License Condition 21. The licensee stated that they spray the uncovered tailings with coherex as a measure to minimize dispersal of blowing tailings. The inspectors noted that the effectiveness of spraying with coherex was being evaluated weekly by means of a documented tailings area inspection as required by License Condition 14.

13. Posting, Labeling and Reports

The inspectors noted continuous fencing of the restricted area and access control at the main gate. Posting was in accordance with applicable requirements. The plant entrance was posted with the information that all areas within the mill may contain radioactive material. The inspectors noted that drums of yellowcake were labeled as LSA and radioactive. The inspectors reviewed representative material transfer and inventory reports and verified compliance with 10 CFR 40.64(a) and 40.64(b).

14. Independent Measurements

The inspectors took two air samples (one in the yellowcake packaging area and one on the MCC Deck) which will be analyzed for total uranium. Analytical results will be compared to the licensee's samples taken at the same times and locations. Direct radiation dose rates were measured at various locations throughout the mill and the yellowcake storage bin. Readings were observed from a Xetex to be generally less than .1 mR/hr. Readings observed from the grizzly and yellowcake storage were in the range of .3 to 2 mR/hr, respectively. These readings were also observed to be consistent with those obtained by the licensee.

15. Exit Interview

The inspectors met with licensee personnel (see paragraph 1) at the conclusion of the inspection on June 24, 1980. Following a discussion of the purpose and scope of the inspection, the inspection findings were reviewed.