09/03/87

DOCKET NO.: 04008910

MEMORANDUM FOR: C. JAMES HOLLOWAY, CHIEF
LICENSE FEE MANAGEMENT BRANCH
DIVISION OF ACCOUNTING AND FINANCE
OFFICE OF ADMINISTRATION &
RESOURCE MANAGEMENT

FROM: T. OLSEN
URFO - LICENSING BRANCH 1
OFFICE OF NUCLEAR MATERIALS
SAFETY AND SAFEGUARDS

SUBJECT: COSTS AND MANHOURS FOR LICENSING ACTION

THE CONTRACT COSTS INCURRED AND MANHOURS USED IN REVIEWING THE APPLICATION DATED 11/26/86 ARE TABULATED BELOW FOR LICENSE NO.

1. NAME: MOBIL MINING & MINERALS CO.
P.O. BOX 26683
RICHMOND, NM. 23261

2. A) CASEWORK CONTROL NO. 04008910100E
B) MAIL CONTROL NO. 87141
C) TAC NO.

3. A) PERIOD COVERED (STAFF HOURS) 12/21/86 - 06/20/87
B) COMPLETION DATE:
C) AMENDMENT NO.

4. CONTRACT COSTS ASSOCIATED WITH THIS APPLICATION: $
PERIOD COVERED (CONTRACT COSTS)

5. TAC WORK BY OTHER OFFICES: HOURS

6. HOURS DURING REPORTING PERIOD: 54.0

7. FEE CHARGEABLE : $3,132

8. TOTAL COST TO PROCESS APPLICATION FOR PERIOD COVERED: $

APPROVED:

E. HAWKINS
BRANCH CHIEF
URFO - LICENSING BRANCH 1

T. OLSEN
PROJECT MANAGER

PROJECT MANAGER: TT OLSEN CASEWORK NUMBER: 04008910100E

FACILITY NAME: MOBIL MINING & MINERALS CO. DATE CLOSED: ACTIVE

NATURE OF ACTIVITY:
TERMINATION OF LICENSE AMEND

| REVIEWER | WEEK ENDING | REGULAR HOURS |
|---|---|---|
| | SUBTOTAL AT $38 | 0.0 |
| THE FOLLOWING WERE CALCULATED AT : 58 $ PER HOUR | | |
| TT OLSEN | 05/16/87 | 18.0 |
| TT OLSEN | 05/23/87 | 9.0 |
| TT OLSEN | 05/30/87 | 9.0 |
| TT OLSEN | 06/06/87 | 9.0 |
| TT OLSEN | 06/13/87 | 9.0 |
| | SUBTOTAL AT $58 | 54.0 |
| | TOTAL | 54.0 |

STATE OF NEW MEXICO
HEALTH & ENVIRONMENT Department

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

Pursuant to the New Mexico Radiation Protection Act of 1971, and the Radiation Protection Regulations Part 3, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; and to use such radioactive materials for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders now or hereafter in effect, of the New Mexico HED Environmental Improvement Division and to any conditions specified below.

| 1. LICENSEE NAME | 3. LICENSE NUMBER |
|---|---|
| Mobil Oil Corporation | NM-M0B2-UL-00 |
| **2a. ADDRESS** | **4. EXPIRATION DATE** |
| Uranium/Minerals Division<br>P.O. Box 5444<br>Denver, Colorado | September 30, 1986 |
| | **5. PREVIOUS/OTHER LICENSE NUMBER** |
| | NM-M0B-UL-00 |
| **2b. TELEPHONE NO.** | **2c. ACTUAL LOCATION OF OPERATION** |
| (303) 572-2442 | Monument Project, McKinley County, New Mexico (Sec 9 T17N R12W) |

| 6. RADIOACTIVE MATERIALS (element and mass number) | 7. CHEMICAL or PHYSICAL FORM | 8. MAXIMUM QUANTITY Licensee may Possess at Any One Time |
|---|---|---|
| All natural radioisotopes encountered in the in-situ solution mining of natural uranium. | Any required in the production of $U_3O_8$ | 60,000 lbs of yellowcake slurry. |

## CONDITIONS

9. AUTHORIZED USE (Unless otherwise specified, the authorized place of use is the location stated in Item 2c. above)

10. A. Uranium Recovery by in-situ solution extraction at the Monument Project In-situ Leach Pilot Test Site is authorized in accordance with the procedures, statements and representations described in the licensee's application dated July 29, 1980 with supporting documents and correspondence dated December 19, 1980, May 5, 1981 and May 28, 1981 signed by Clark, Steingraber and Cresswell respectiviely and submitted in support of license application.

B. The authorized place of use is at the licensee's project site located at NW/4, Section 28, T17N, R12W, NMPM in McKinley County, New Mexico. The site is approximately two (2) miles east of Crownpoint, New Mexico. Site office address is Mobil Oil Corporation, Post Office Box Drawer F, Crownpoint, New Mexico 87313.

11. The licensee is hereby exempt from the requirements of 4-220.E.2 of the Radiation Protection Regulations provided all entrances to the site are conspicuously posted with the words "any area within this facility may contain radioactive material."

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

License Number NM-M0B2-UL-00

12. The project facilities shall be restricted by enclosing the processing areas and the storage evaporation pond with fencing.

13. Specified locations inside the restricted area shall be identified and posted for storage of uranium slurry.

14. Mobil Oil Corporation shall furnish the Division a Transportation Accident/Incident Response Plan for yellowcake slurry shipments from the Crownpoint Project in-situ leaching site. Division approval of the plan is required prior to any shipment from the site.

15. The licensee shall perform the radiological monitoring program specified in the Environmental Report to include procedures reflected in supporting documents and correspondence. Mobil shall analyze, document and report the possible effects of the operation on the environment to assure compliance with applicable standards and early identification of undesirable trends. Radiation Safety Program specified in Section C shall be implemented.

16. The licensee shall provide ~~annual~~ progress reports on decommissioning and restoration activities ~~at Section 9 and 28~~ to include procedures for removing and ultimately disposing of contaminated materials from the sites and provide assurance that arrangement for proper radioactive waste disposal has been completed.

17. All operations that may affect groundwater including final decommissioning and reclamation shall be conducted in accordance with the approved Ground Water Discharge Plan (DP-137). Aquifers shall be restored when leach operations are completed with groundwater quality consistent with New Mexico Water Quality Control Commission (NMWQCC) standards and as provided in the approved Ground Water Discharge Plan.

18. The Director of the Environmental Improvement Division or his authorized representatives shall be allowed access to premises to inspect sources of radiation, to include all facilities/areas wherein such sources of radiation are used or stored.

19. The Division shall be notified within 48 hours of any vertical or horizontal excursion involving leach field patterns.

20. The applicant shall inform the Division in writing of any proposed changes in the well field monitoring programs or methods of operation.

For the New Mexico HED Environmental Improvement Division

Date _____

By _____
Gerald W. Stewart, Health Program Manager
Uranium Licensing Section

MOBILS OIL CORPORATION, MONUMENT SITE,
IN-SITU LEACH PROJECT
RADIOACTIVE MATERIAL LICENSE CONDITIONS
AND RATIONAL ()

(9) Uranium recovery by in-situ solution extraction at the Monument Project In-Situ Leach Pilot Test Site is authorized in accordance with the procedures, statements and representations described in the licensee's application dated July 29, 1980 with supporting documents and correspondence dated December 19, 1980, May 5 and May 28, 1981 signed by Clark, Steingraber and Creswell respectively and submitted in support of the license application. The authorized place of use is at the licensee's project site located at NW/4, Section 28, T17N, R12W, NMPM in McKinley County, New Mexico. The site is approximately two (2) miles east of Crownpoint, New Mexico. Site office address is Mobil Oil Corporation, Post Office Box Drawer F, Crownpoint, New Mexico 87313. (This is a standard "tie-down" that obligates the licensee to conduct the proposed operation in accordance with the plans and procedures submitted to the Division and at the location specified in the application).

(10) The licensee is hereby exempt from the requirements of 4-220 E.2. of the Radiation Protection Regulations provided all entrances to the site are conspicously posted with the words "any area within this facility may contain radioactive material". (This relieves the licensee of the necessity to post every building, facility and area within the site that may be used for radioactive materials).

(11) The project facilities shall be restricted by enclosing the processing area and the storage evaporation pond. (A security measure to prevent radiation exposure to members of the public or unauthorized persons entering the property, and to minimize animal intrusion).

(12) Specified locations inside the restricted area shall be identified and posted for storage of uranium slurry. (Primarily security measure to maintain accountability for highly concentrated source material with a potential for inhalation and ingestion hazards).

(13) Mobil Oil Corporation shall furnish the Division a Transportation Accident/Incident Response Plan for yellowcake slurry shipment from the Crownpoint Project in-situ leaching site. Division approval of the plan is required prior to any shipments from the site. (To ensure that plans are in existence to cope with any accident/incidents involving transportation of yellowcake slurry from the site to processors).

(14) The licensee shall perform the radiological environmental monitoring program specified in the Environmental Report to include procedures

reflected in supporting documents and correspondence. Mobil shall analyze, document and report the possible effects of the operation on the environment to assure compliance with applicable standards and early identification of undesirable trends. Radiation Safety Program specified in Section C shall be implemented. (The reasons for this condition are as specified by the condition itself.)

WHEN RESOLVED BY EID

(15) The licensee shall provide ~~annual~~ progress reports on decommissioning and restoration activities ~~at Section 9 and 28~~ to include procedures for removing and ultimately disposing of contaminated material from the sites and provide assurance that proper radioactive disposal has been completed. (Complete decommissioning and reclamation tasks will not be completed ~~at either Section 9 and 28 pilot test projects~~ before application for licensing of a Mobil commercial processing facility is undertaken. It is essential that EID be kept advised of any potential problems that might develop involving decommissioning and restoration of the pilot test sites due to the impact this could have on the large scale commercial in-situ licensing activities).

(16) All operations that may affect ground water including final decommissioning and reclamation shall be conducted in accordance with the approved groundwater discharge plan (DP-137). Aquifers shall be restored when leach operations are completed with groundwater quality consistent with New Mexico Water Quality Control Commission (NMWQCC) standards and as provided in the approved groundwater discharge plan. (This confirms the applicants own commitments in Section 2.2 of their Environmental Report and in supplemental material).

(17) The Director of EID or his authorized representatives shall be allowed access to premises to inspect sources of radiation to include all facilities/areas wherein such sources of radiation are used or stored. (To ensure EID personnel are allowed entry to the site to enforce compliance with license commitments and all laws and regulations enforceable by the Division).

(18) The Division shall be notified within forty-eight (48) hours of any vertical or horizontal excurison involving leach field patterns. (To provide EID with prompt notification of any out of the ordinary excursion patterns so prompt assessments/investigations can be conducted to limit impact of such excursions on the environment).

(19) The applicant shall inform the Division in writing of any proposed changes in the well field monitoring programs or methods of operation. (To ensure EID is promptly notified if Mobil elects to change well field monitoring or operational activities in order to assess potential environmental impacts.)

STATE OF NEW MEXICO
HEALTH & ENVIRONMENT Department

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

Pursuant to the New Mexico Radiation Protection Act of 1971, and the Radiation Protection Regulations Part 3, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; and to use such radioactive materials for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders now or hereafter in effect, of the New Mexico HED Environmental Improvement Division and to any conditions specified below.

| 1. LICENSEE NAME | 3. LICENSE NUMBER |
|---|---|
| Mobil Oil Corporation | NM-MOB2-UL-00 |
| **2a. ADDRESS** | **4. EXPIRATION DATE** |
| Uranium/Minerals Division<br>P.O. Box 5444<br>Denver, CO 80217 | AUGUST ~~July~~ , 1986 |
| | **5. PREVIOUS/OTHER LICENSE NUMBER** |
| | NM-MOB-UL-00 |

| 2b. TELEPHONE NO. | 2c. ACTUAL LOCATION OF OPERATION |
|---|---|
| 303/572-2442 | Monument Project, McKinley County, New Mexico |

| 6. RADIOACTIVE MATERIALS (element and mass number) | 7. CHEMICAL or PHYSICAL FORM | 8. MAXIMUM QUANTITY Licensee may Possess at Any One Time |
|---|---|---|
| All natural radioisotopes encountered in the in-situ solution mining of natural uranium. | Any required in the production of $U_3O_8$ | 60,000 lbs of yellowcake slurry |

## CONDITIONS

9. AUTHORIZED USE (Unless otherwise specified, the authorized place of use is the location stated in Item 2c. above)

10. Uranium Recovery by in-situ solution extraction at the Monument Project In-Situ Leach Pilot Test Site is authorized in accordance with the procedures, statements and representations described in the licensee's application dated July 29, 1980 with supporting documents and correspondence dated December 19, 1980, May 5 and May 28, 1981 signed by Clark, Steingraber and Cresswell respectively and submitted in support of license application.

The authorized place of use is at the licensee's project site located at NW/4, Section 28, T17N, R12W, NMPM in McKinley County, New Mexico. The site is approximately two (2) miles east of Crownpoint, New Mexico. Site office address is Mobil Oil Corporation, Post Office Box Drawer F, Crownpoint, New Mexico 87313.

STATE OF NEW MEXICO
HEALTH ENVIRONMENT

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-UL-00

11. The licensee is hereby exempt from the requirements of 4-220.E.2 of the Radiation Protection Regulations provided all entrances to the site are conspicuously posted with the words "any area within this facility may contain radioactive material."

12. The project facilities shall be restricted by enclosing the processing areas and the storage evaporation pond with fencing.

13. Specified locations inside the restricted area shall be identified and posted for storage of uranium slurry.

14. Mobil Oil Corporation shall furnish the Division a Transportation Accident/Incident Response Plan for yellowcake slurry shipments from the Crownpoint Project in-situ leaching site. Division approval of the plan is required prior to any shipment from the site.

15. The licensee shall perform the radiological environmental monitoring program as summarized on page B-225 and B-229 of the applicant's environmental report, document and analyze the possible effects of the operation on the environment to assure compliance with applicable standards and early identification of undesirable trends. Radiation Safety Program specified in Section C will be implemented.

16. The licensee shall provide annual progress reports on decommissioning and restoration activities at Section 9 and 28 to include procedures for removing and ultimately disposing of contaminated materials from the sites and provide assurance that arrangement for proper radioactive waste disposal has been completed.

For the New Mexico HED Environmental Improvement Division

Date _____ By _____

STATE OF NEW MEXICO
HEALTH ENVIRONMENT department

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-IL-00

17. All operations THAT MAY AFFECT GROUND WATER including final decommissioning and reclamation shall be conducted in accordance with ~~an~~ THE approved Ground Water Discharge Plan (DP-137). Aquifers shall be restored when leach operations are completed with ground water quality consistent with New Mexico Water Quality Control Commission (NMWQCC) ~~Regulations~~ STANDARDS AND AS PROVIDED IN THE APPROVED GROUND WATER DISCHARGE PLAN.

18. The Director of the Environmental Improvement Division or his authorized representatives shall be allowed access to premises to inspect sources of radiation, to include all facilities/areas wherein such sources of radiation are used or stored.

19. The Division shall be notified within 48 hours of any vertical or horizontal excursion involving leach field patterns.

20. The applicant shall inform the Division in writing of any proposed changes in the well field monitoring programs or methods of operation.

For the New Mexico HED Environmental Improvement Division

Date _____ By _____

HEALTH ENVIRONMENT STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

Pursuant to the New Mexico Radiation Protection Act of 1971, and the Radiation Protection Regulations Part 3, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; and to use such radioactive materials for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders now or hereafter in effect, of the New Mexico HED Environmental Improvement Division and to any conditions specified below.

| 1. LICENSEE NAME | 3. LICENSE NUMBER |
|---|---|
| Mobil Oil Corporation | NM-MOB2-UL-00 |
| 2a. ADDRESS<br>Uranium/Minerals Division<br>P.O. Box 5444<br>Denver, Colorado | 4. EXPIRATION DATE<br>October 31, 1986 |
| | 5. PREVIOUS/OTHER LICENSE NUMBER<br>NM-MOB-UL-00 |
| 2b. TELEPHONE NO.<br>(303) 572-2442 | 2c. ACTUAL LOCATION OF OPERATION<br>Monument Project, McKinley County, New Mexico (see 9B) |

| 6. RADIOACTIVE MATERIALS (element and mass number) | 7. CHEMICAL or PHYSICAL FORM | 8. MAXIMUM QUANTITY Licensee may Possess at Any One Time |
|---|---|---|
| All natural radioisotopes encountered in the in-situ solution mining of natural uranium. | Any required in the production of $U_3O_8$. | 60,000 lbs of yellowcake slurry. |

9. AUTHORIZED USE (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2a. above)

CONDITIONS

A. Uranium recovery by in-situ solution extraction at the Monument Project In-situ Leach Pilot Test Site is authorized in accordance with the procedures, statements and representation described in the licensee's application dated July 29, 1980 with supporting documents and correspondence dated December 19, 1980, May 5, 1981, May 28, 1981 and September 25, 1981 signed by Clark, Steingraber and Cresswell respectively and submitted in support of license application.

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STATE OF NEW MEXICO
HEALTH ENVIRONMENT department

ENVIRONMENTAL IMPROVEMENT DIVISION

RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-UL-00

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15. The licensee shall provide annual progress reports when requested by EID on decommissioning and restoration activities to include procudures for removing and ultimately disposing of contaminate material from the site and provde assurance that proper radioactive disposal has been completed.

16. All operations that may affect groundwater including final decommissioning and reclamation shall be conducted in accordance with the approved Groundwater Discharge Plan (DP-137). Aquifers shall be restored when leach operations are completed with groundwater quality consistent with New Mexico Water Quality Control Commission (NMWQCC) standards and as provided in the approved Groundwater Discharge Plan.

17. The Director of the Environmental Improvement Division or his authorized representatives shall be allowed access to premises to inspect sources or radiation, to include all facilities/areas wherein such sources of radiation are used or stored.

18. The Division shall be notified with 48 hours of anyvertical or horizontal excursion involving leach field patterns.

STATE OF NEW MEXICO
HEALTH & ENVIRONMENT department

ENVIRONMENTAL IMPROVEMENT DIVISION
RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-UL-00

19. The applicant shall inform the Division in writing of any proposed changes in the well field monitoring program or methods of operation.

20. All operations shall be conducted in accordance with Part 4 of the New Mexico Radiation Protection Regulations.

For the New Mexico HED Environmental Improvement Division

Date October 21, 1981

By Gerald W. Stewart

Gerald W. Stewart, Health Program Manager
Uranium Licensing Section

HEALTH ENVIRONMENT STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

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| 1. LICENSEE NAME | 3. LICENSE NUMBER |
|---|---|
| Mobil Oil Corporation | NM-MOB2-UL-00 |
| 2a. ADDRESS<br>Uranium/Minerals Division<br>P.O. Box 5444<br>Denver, Colorado | 4. EXPIRATION DATE<br>October 31, 1986 |
| | 5. PREVIOUS/OTHER LICENSE NUMBER<br>NM-MOB-UL-00 |
| 2b. TELEPHONE NO.<br>(303) 572-2442 | 2c. ACTUAL LOCATION OF OPERATION<br>Monument Project, McKinley County, New Mexico (see 9B) |

| 6. RADIOACTIVE MATERIALS (element and mass number) | 7. CHEMICAL or PHYSICAL FORM | 8. MAXIMUM QUANTITY Licensee may Possess at Any One Time |
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| All natural radioisotopes encountered in the in-situ solution mining of natural uranium. | Any required in the production of $U_3O_8$. | 60,000 lbs of yellowcake slurry. |

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HEALTH ENVIRONMENT STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

RADIOACTIVE MATERIAL LICENSE

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STATE OF NEW MEXICO
HEALTH & ENVIRONMENT

ENVIRONMENTAL IMPROVEMENT DIVISION
RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-UL-00

19. The applicant shall inform the Division in writing of any proposed changes in the well field monitoring program or methods of operation.

20. All operations shall be conducted in accordance with Part 4 of the New Mexico Radiation Protection Regulations.

For the New Mexico HED Environmental Improvement Division

Date October 21, 1981

By Gerald W. Stewart

Gerald W. Stewart, Health Program Manager
Uranium Licensing Section

HEALTH & ENVIRONMENT

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

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| 2a. ADDRESS<br>Uranium/Minerals Division<br>P.O. Box 5444<br>Denver, Colorado | 4. EXPIRATION DATE<br>October 31, 1986 |
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HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

RADIOACTIVE MATERIAL LICENSE

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STATE OF NEW MEXICO
HEALTH ENVIRONMENT department

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-UL-00

19. The applicant shall inform the Division in writing of any proposed changes in the well field monitoring program or methods of operation.

20. All operations shall be conducted in accordance with Part 4 of the New Mexico Radiation Protection Regulations.

For the New Mexico HED Environmental Improvement Division

Date October 21, 1981

By Gerald W. Stewart

Gerald W. Stewart, Health Program Manager
Uranium Licensing Section

STATE OF NEW MEXICO
HEALTH & ENVIRONMENT

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

Pursuant to the New Mexico Radiation Protection Act of 1971, and the Radiation Protection Regulations Part 3, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; and to use such radioactive materials for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders now or hereafter in effect, of the New Mexico HED Environmental Improvement Division and to any conditions specified below.

| 1. LICENSEE NAME | 3. LICENSE NUMBER |
|---|---|
| Mobil Oil Corporation | NM-MOB2-UL-00 |
| 2a. ADDRESS<br>Uranium/Minerals Division<br>P.O. Box 5444<br>Denver, Colorado | 4. EXPIRATION DATE<br>October 31, 1986 |
| | 5. PREVIOUS/OTHER LICENSE NUMBER<br>NM-MOB-UL-00 |
| 2b. TELEPHONE NO.<br>(303) 572-2442 | 2c. ACTUAL LOCATION OF OPERATION<br>Monument Project, McKinley County, New Mexico (see 9B) |

| 6. RADIOACTIVE MATERIALS (element and mass number) | 7. CHEMICAL or PHYSICAL FORM | 8. MAXIMUM QUANTITY Licensee may Possess at Any One Time |
|---|---|---|
| All natural radioisotopes encountered in the in-situ solution mining of natural uranium. | Any required in the production of $U_3O_8$. | 60,000 lbs of yellowcake slurry. |

9. AUTHORIZED USE (Unless otherwise specified, the authorized place of use is the licensee's address stated in item 2a. above)

CONDITIONS

A. Uranium recovery by in-situ solution extraction at the Monument Project In-situ Leach Pilot Test Site is authorized in accordance with the procedures, statements and representation described in the licensee's application dated July 29, 1980 with supporting documents and correspondence dated December 19, 1980, May 5, 1981, May 28, 1981 and September 25, 1981 signed by Clark, Steingraber and Cresswell respectively and submitted in support of license application.

B. The authorized place of use is at the licensee's project site located at NW/4, Section 28, T17N, R12W, NMPM in McKinley County, New Mexico. The site is approximately two miles east of Crownpoint, New Mexico. Site office address is Mobil Oil Corporation, Post Office Box Drawer 7, Crownpoint, New Mexico 87313.

10. The licensee is hereby exempt from the requirements of 4-220.E.2 of the Radiation Protection Regulations provided all entrances to the site are conspicuously posted with the words "any area within this facility may contain radioactive material."

STATE OF NEW MEXICO
HEALTH ENVIRONMENT department

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-UL-00

11. The project facilities shall be restricted by enclosing the processing areas and the storage evaporation pond with fencing.

12. Specified locations inside the restricted area shall be identified and posted for storage of uranium slurry.

13. Mobil Oil Corporation shall furnish the Division a Transportation Accident/ Incident Response Plan for yellowcake slurry shipments from the Crownpoint Project In-situ Leaching Site. Division approval of the plan is required prior to any shipment from the site.

14. The licensee shall perform the radiological monitoring program specified in the Environmental Report to include procedures reflected in supporting documents and correspondence. Mobil shall analyze, document and report the possible effects of the operation on the environment to assure compliance with applicable standards and early identification of undersirable trends. Radiation Safety Program specified in Section C shall be implemented.

15. The licensee shall provide annual progress reports when requested by EID on decommissioning and restoration activities to include procudures for removing and ultimately disposing of contaminate material from the site and provde assurance that proper radioactive disposal has been completed.

16. All operations that may affect groundwater including final decommissioning and reclamation shall be conducted in accordance with the approved Groundwater Discharge Plan (DP-137). Aquifers shall be restored when leach operations are completed with groundwater quality consistent with New Mexico Water Quality Control Commission (NMWQCC) standards and as provided in the approved Groundwater Discharge Plan.

17. The Director of the Environmental Improvement Division or his authorized representatives shall be allowed access to premises to inspect sources or radiation, to include all facilities/areas wherein such sources of radiation are used or stored.

18. The Division shall be notified with 48 hours of anyvertical or horizontal excursion involving leach field patterns.

HEALTH ENVIRONMENT STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB2-UL-00

19. The applicant shall inform the Division in writing of any proposed changes in the well field monitoring program or methods of operation.

20. All operations shall be conducted in accordance with Part 4 of the New Mexico Radiation Protection Regulations.

For the New Mexico HED Environmental Improvement Division

Date October 21, 1981

By Gerald W. Stewart

Gerald W. Stewart, Health Program Manager
Uranium Licensing Section

STATE OF NEW MEXICO
HEALTH ENVIRONMENT Department

ENVIRONMENTAL IMPROVEMENT DIVISION

# RADIOACTIVE MATERIAL LICENSE

Pursuant to the New Mexico Radiation Protection Act of 1971, and the Radiation Protection Regulations Part 3, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; and to use such radioactive materials for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders now or hereafter in effect, of the New Mexico HED Environmental Improvement Division and to any conditions specified below.

| 1. LICENSEE NAME | 3. LICENSE NUMBER |
|---|---|
| Mobil Oil Corporation | NM-MOB 2-LL-00 |
| 2a. ADDRESS<br>Uranium/Minerals Division<br>P. O. Box 5444<br>Denver, CO 80217 | 4. EXPIRATION DATE<br>July , 1986 |
| | 5. PREVIOUS/OTHER LICENSE NUMBER<br>NM-MOB-UL-00 |
| 2b. TELEPHONE NO.<br>303/572-2442 | 2c. ACTUAL LOCATION OF OPERATION<br>Monument Project, McKinley County, New Mexico |

| 6. RADIOACTIVE MATERIALS (element and mass number) | 7. CHEMICAL or PHYSICAL FORM | 8. MAXIMUM QUANTITY Licensee may Possess at Any One Time |
|---|---|---|
| All natural radioisotopes encountered in the in-situ solution mining of natural uranium. | Any required in the production of $U_3O_8$ | 60,000 lbs of yellowcake slurry |

## CONDITIONS

9. AUTHORIZED USE (Unless otherwise specified, the authorized place of use is the location stated in Item 2c. above)

1. Uranium Recovery by in-situ solution mining at the Monument Project In-Situ Leach Pilot Test Site is authorized in accordance with the procedures described in the licensee's application dated July 29, 1980, supporting documents and with written documentation submitted in support of license application. The authorized place of use is at the licensee's project site located at NW/4, Section 28, T17N, R12W, NMPM in McKinley County, New Mexico. The site is approximately two (2) miles east of Crownpoint, New Mexico.
2. The licensee is hereby exempt from the requirements of 4-220.E.2 of the Radiation Protection Regulations provided all entrances to the site are conspicuously posted with the words "any area within this facility may contain radioactive material."

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RADIOACTIVE MATERIAL LICENSE

License Number NM-MOB-UL-0

3. The project facilities shall be restricted by enclosing the processing areas and the storage evaporation pond with fencing. This includes fencing of any additional evaporation ponds that might be constructed at a later date on this site.
4. Specified locations inside the restricted area shall be identified and posted for storage of uranium slurry.
5. Air sampling for radon and/or radon daughters shall be conducted, for the initial six months, on a monthly basis inside the plant processing building housing the ion exchange and precipitation equipment to include four other designated locations within the pilot test area. Record of exposures shall be maintained for employees whose work involves occupancy in areas where concentrations exceed twenty-five (25) percent of the concentrations specified by Part 4, Appendix A, Table 1, Column I for Radon 222. The radon sampling program shall be supplemented by sampling for uranium particulates on a monthly basis inside the plant and four other designated locations within the pilot test area. If sample results collected for six (6) months of continuous operation are less than twenty-five (25) percent of the applicable maximum permissible concentrations (mpc's) specified by Part 4, Appendix A for either of the sampling programs specified above, sampling may be reduced to a quarterly frequency.
6. The licensee shall perform the radiological environmental monitoring program as summarized on page B-225 and B-229 of the applicant's environmental report, document and analyze the possible effects of the operation on the environment

Date _____ By _____

STATE OF NEW MEXICO
HEALTH ENVIRONMENT

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License Number NM-MOB-UL-028

to assure compliance with applicable standards and early identification of undesirable trends. RADIATION SAFETY PROGRAM SPECIFIED IN SECTION 6 WILL BE IMPLEMENTED.

7. The licensee shall provide annual progress reports on decommissioning and restoration activities at Section 9 and 28 to include procedures for removing and ultimately disposing of contaminated materials from the sites and provide assurance that arrangement for proper radioactive waste disposal has been completed.

8. All operations, including final decommissioning and reclamation shall be conducted in accordance with an approved Ground Water Discharge Plan. Aquifers shall be restored when leach operations are completed with ground water quality consistent with New Mexico Water Quality Control Commission (NMWQCC) Regulations.

9. The Director of the Environmental Improvement Division or his authorized representatives shall be allowed access to premises to inspect sources of radiation, to include all facilities/areas wherein such sources of radiation are used or stored.

10. The Division shall be notified within 48 hours of any vertical or horizontal excursion involving leach field patterns.

11. THE APPLICANT SHALL INFORM THE DIVISION IN WRITING OF ANY PROPOSED CHANGES IN THE WELL FIELD MONITORING PROGRAMS DISCUSSED IN SECTION 5.2.1.1

12. IN THE EVENT OF A RADIOACTIVE SPILL, THE DIVISION IS TO BE NOTIFIED IMMEDIATELY.

For the New Mexico HED Environmental Improvement Division

Date _____ By _____

STATE OF NEW MEXICO
ENVIRONMENT
RADIATION PROTECTION SECTION

# MEMORANDUM

DATE: July 2, 1981

TO: GERALD W. STEWART, Program Manager, Uranium Licensing Section

FROM: SAMUEL N. SIMPSON, Project Manager, Uranium Licensing Section

SUBJECT: MOBIL OIL CORPORATION, MONUMENT SECTION 28 IN SITU LEACH PILOT PROJECT APPLICATION DRAFT LICENSING PACKAGE

(1) Attached for your review/comment is a draft of a proposed licensing package for the subject application. The materials are in a preliminary form pending further actions including the following:

A. Surveillance & Field Operations Section
Complete review of radiological assessment and provide recommendations concerning license conditions.

B. Ground Water Pollution Control Section
Complete review of water quality factors and formulate conditions.

C. State Engineer
Determine requirements if any.

D. Mobil Oil Corporation
Restore groundwater quality at Section 9, Pilot Test Project.

SNS/ck
Enc.

cc: J. Millard
D. Boyer, WPCB

STATE OF NEW MEXICO
ENVIRONMENT

# MEMORANDUM

RADIATION PROTECTION SECTION

DATE: July 2, 1981

TO: THOMAS E. BACA, Director, EID
THRU: CUBIA L. CLAYTON, Assistant Director, EID
ALPHONSO TOPP, Acting Chief, Radiation Protection Bureau, EID
FROM: Gerald W. Stewart, Program Manager, Uranium Licensing Section, RAD, EID

SUBJECT: RECOMMENDATION FOR ISSUANCE OF A RADIOACTIVE MATERIAL LICENSE TO MOBIL OIL CORPORATION

(1) Attached for your review/concurrence is a licensing package prepared following review and evaluation of a Mobil application for a proposed In-Situ Leach Pilot at Section 28, Monument Project located in McKinley County, New Mexico. The licensing package consists of the following:

A. Proposed letter of submission
B. Draft license
C. Summary of proposed license conditions and justification
D. Draft press release
E. Staff report on application

(2) On the basis of the information submitted by Mobil, visits to the proposed site and discussions with Mobil personnel, it is noted that:

A. The site is located approximately two miles east of the town of Crownpoint, New Mexico, adjacent to the Chaco Canyon National Monument. Land in the site area is semi-arid and used primarily for grazing. The operational areas will be fenced and posted (see license condition 3 ).

B. Liquid wastes will be transported by pipeline to the evaporation waste disposal pond. The evaporation pond and associated pipeline will be operated subject to an approved EID Groundwater Discharge Plan.

C. Atmospheric effluents from the processing plant will be sampled and monitored for radioactivity levels in the entire circuit and within the processing building by authorized radiation safety personnel using adequate instrumentation in conformance with required EID procedures (see license condition 6 ).

D. The proposed monitoring program is adequate for this type of operation. Periodic water samples will be taken from the monitor wells surrounding the well field, at the evaporation pond, and from aquifers immediately above and below the ore zone. The sampling and reporting schedule will be in accordance with an approved EID Groundwater Discharge Plan.

E. After leaching is complete, groundwater quality will be restored using a ground water sweep and withdrawal technique. Criteria for restoration will be based on New Mexico Water Quality Control Commission Regulations and in accordance with an approved EID Groundwater Discharge Plan.

Memo to Tom Baca
Re: Recommendation for Issuance of a Radioactive Material License to Mobil Oil Corporation
July 2, 1981

F. Mobil's management appears capable of enforcing a radiation safety program, and the individuals assigned the responsibility for conducting this program will be required by license to be technically qualified to do so. Site employees will be provided adequate instructions and safeguards for radiation protection.

(3) The proposed pilot testing project is not deemed to be a major licensing action within the meaning and intent of Section 3-300.H. of the New Mexico Radiation Protection Regulations. In addition, issuance of a license for the proposed project is not considered to be a major licensing action with significant impact on human environment. Thus, a written analysis as required by Section 204(e) of the Uranium Mill Tailings Radiation Control Act need not be prepared. Following final review and approval this licensing package should constitute a written determination, subject to judical review, as required by Section 204(e) of UMTRCA and in accordance with Section 3-312.J. of the Regulations. Approval of the requested license is therefore recommended subject to license conditions, an approved Ground Water Discharge Plan and restoration of Section 9 Pilot Test Project.

(4) This proposed action has been coordinated with the EID with the Office of Legal Services, Ground Water Pollution Control Section and the Air Quality Bureau. The applicant has also been advised to consult with the Office of State Engineer, State Inspector of Mines, Energy and Minerals Department and New Mexico Heritage Program.

(5) Public Notice of acceptance of the application was published in Santa Fe, Sandoval, McKinley, Valencia and San Juan County newspapers and in the Navajo Times during the period from March 2, 1981 through March 6, 1981. During the 30 day comment period on letter was received requesting a public hearing. Since there does not appear to be significant public interest in the application, or a need to resolve issues not resolvable in writing, a public hearing is not deemed to be necessary or recommended.

Attachments:
1) Proposed letter of submission,
2) Draft license,
3) Summary of proposed license conditions and justification,
4) Press release
5) Staff report on application

MOBILS OIL CORPORATIONS, MONUMENT SITE,
IN-SITU LEACH PROJECT

RADIOACTIVE MATERIAL LICENSE CONDITIONS
AND RATIONAL ()

(1) Uranium recovery by in-situ solution mining at the Monument Project In-Situ Leach Pilot Test Site is authorized in accordance with (IAW) the procedures described in the licensee's application dated July 29, 1980 supporting documents, and with written documentation submitted in support of the license application. The authorized place of use is at the licensee's project site (Monument) located NW/4, Section 28, T17N, R12W. McKinley County, New Mexico. The site is approximately 2 miles east of the town of Crownpoint, New Mexico. (This is a standard "tie-down" that obliges the licensee to conduct the proposed operations IAW the plans and procedures submitted to the Division and the location specified in the application).

(2) The licensee is hereby exempt from the requirements of 4-220 E.2 of the Radiation Protection Regulations provided all entrances to the site are conspicously posted with the words "Any area within this facility may contain radioactive Material". (This relieves the licensee of the necessity to post every building, facility and area within the site that may be used for radioactive materials).

(3) The project facilities shall be restricted by enclosing the processing area and the storage evaporation pond. This includes fencing of any additional evaporation ponds that might be constructed at a later date.

(A security measure to prevent radiation exposures to members of the public or unauthorized persons entering the property, and to minimize animal intrusion. Although this project currently entails only one evaporation pond, previously approved Section 9 In-Situ pilot test project necessitated construction of an additional pond during reclamation activities. Felt to tie this situation down in advance was beneficial just in case additional ponds are required at Section 28).

(4) Specified locations inside the restricted area shall be identified and posted for storage or uranium slurry. (Primarily security measure to maintain accountability for highly concentrated source material with a potential for inhalation and ingestion hazards).

(5). Air sampling for radon and/or radon daughters shall be conducted for the initial six months, on a monthly basis inside the plant processing building housing the ion exchange and precipitation equipment, AND to include four other designated locations within the pilot test area. Record of exposure shall be maintained for employees whose work involves occupancy in areas where concentration exceed twenty-five(25) percent of the concentrations specified by Part 4, Appendix A, Table 1, Column 1 for Radon 222. The radon sampling program shall be supplemented by sampling for uranium particulates on a monthly basis inside the plant and four other designated locations within the pilot test area. If sample results collected for six (6) months of continuious operation are less than twenty-five (25) percent specified by Part 4, Appendix A for either of the sampling programs specified.

Above, sampling may be reduced to a quarterly frequency. (This condition is designed to ensure that occupational exposures are held to levels that are consistent with applicable standards or as low as reasonably achievable. The condition provides for relaxation of sampling requirements, should early result indicate less that 25% specified by Part 4, Appendix A.

(6) The licensee shall perform the radiological environmental monitoring program as summarized on page B-225 and B-229 of the applicants environmental report, document and analyse the possible effects of the operation on the environment to assure compliance with applicable standards and early identification of undesirable trends. (The reasons for this condition are as specified by the condition itself).

(7) The licensee shall provide annual progress reports on decommissioning and restoration activities at Section 9 & 28 to include procedures for removing and ultimately disposing of contaminated material from the sites and provide assurance that proper radioactive waste disposal has been completed. (Complete decommissioning and reclamation tasks will not be completed at either Section 9 and 28 pilot test projects before application for licensing of a Mobil commercial processing facility is undertaken. It is essential that EID be kept abreast of any potential problems that might develop involving decommissioning and restoration of the pilot test sites due to the impact this could have on the large scale commercial in-situ licensing activities).

(8) All operations, including final decommissioning and reclamation shall be conducted in accordance with an approved groundwater discharge plan. Aquifers shall be restored when leach operations are completed with ground water quality consistent with New Mexico Water Quality Control Commission (NMWQCC) Regulations. (This confirms the applicants own commitments in Section 2.2 of their environmental report and in supplemental material).

(9) The Director of EID or his authorized representatives shall be allowed access to premises to inspect sources of radiation to include all facilities/areas wherein such sources of radiation are used or stored.

(To ensure EID personnel are allowed entry to site to enforce compliance with license commitments and all laws and regulations enforceable by the Division).

(10) The Division shall be notified within forty-eight (48) hours of any vertical or horizontal excursion involving leach field patterns.

(To provide EID with prompt notification of any out of the ordinary excursion patterns so prompt assessments/investigations can be conducted to limit impact of such excursions on the environment).

(11) The applicant shall inform the EID in writing of any proposed changes in the well field monitoring programs discussed in Section 5.2.1.1.

(To ensure EID is promplty notified if Mobil elects to change well field monitoring activities),

(12) In the event of a radioactive spill, the Division is to be notified immediately. (To ensure prompt notification to EID in the event of a spill).

July

Mr. D. B. Cooper
Producing Manager - Uranium
Mobil Oil Corporation
P.O. Box 5444
Denver, Colorado 80217

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Dear Mr. Cooper

Attached hereto is my letter dated_____approving Mobil's proposed Monument In-Situ Leach Pilot Test discharge plan (DP-___) with conditions.

Further, in accordance with Section 3-310 of the New Mexico Radiation Protection Regulations, I have approved the issuance of the enclosed Radioactive Material License (NM-MOB-UL-0 ) for construction and operation of the proposed Monument In-Situ Pilot Test Project. In addition to therequired license conditions, Mobil is hereby requested to:

1) provide the Division with at least 45 days advance notice of the estimated operational date in order to provide for a pre-operation inspection by the EID of the project site and

2) Advise the EID of any changes in the mill circuit, equipment, engineering methods and key staff members responsible for operational safety and environmental protection.

Also enclosed in accordance with Section 3-31. of the Radiation Protection Regulations, is a copy of a staff memorandum providing reasons for the license conditions imposed on the radioactive material license.

Sincerely,

Thomas E. Baca
Director

Enc.
cc: District Mgr, EID, Central Office, GWS, File

_____ ___, 1981

FOR RELEASE_____ ___, 1981 Contact: Thomas E. Baca
827-5271, ext. 200
Cubia Clayton
827-5271, ext. 244

SANTA FE---Thomas E. Baca, Director of the Environmental Improvement Division of the Health and Environment Department announced today his approval of the discharge plan and radioactive material license for the Mobil Oil Corporation, Monument Site In-Situ Leach Pilot Test Project. The announcement followed a review and evaluation of the application which was submitted July 29, 1980 and accepted by EID for detail review on February 23, 1981. Public Notice of the application was published March 2-6, 1981.

The project will consist of construction and operation of a pilot scale in-situ mining facility. The demonstration project is designed to test feasibility of in-situ leaching process for the Monument project.

Process wastes will be transported by pipeline to an evaporation pond located on the project site. Compared to conventional uranium mining and milling the relative potential for radiation and environmental impacts from in-situ solution mining is very low.

Following cessation of operations all surface facilities will be removed and the project site will be reclaimed to a condition suitable for unrestricted use.

July

MEMORANDUM

TO: Mobil Application File

THRU: Gerald W. Stewart, Program Manager,
Uranium Licensing Section

FROM: Samuel N. Simpson, Project Manager
Uranium Licensing Section

SUBJECT: Staff Report, Mobil Oil Corporation's Application for a Radioactive Material License to Authorize Pilot Scale (R&D) Studies on Uranium Recovery by In-Situ Solution Mining, Monument Project, McKinley County, New Mexico

BACKGROUND

By letter dated July 29, 1980 Mobil Oil Corporation submitted an application for a Radioactive Material License to receive, possess, use and transfer source material in the course of a pilot scale in-situ test. The objectives of the field pilot test program are (1) determination of process technical feasibility, (2) environmental impact assessment and (3) evaluation of uranium resource recovery and process production economics. In response to questions from the staff Mobil submitted supplemental data, dated December 19, 1980 and June 22, 1981.

PROPOSED ACTIVITIES

Mobil is requesting approval for construction and operation of a pilot scale in-situ uranium mining facility. The operation is located on the Monument Project, Mckinley County, New Mexico. Mobil is proposing a pilot test program covering 9.5 acres, involving one five-spot pattern on 200 ft. well spacing. Corner wells utilized as injection wells with the center well employed as a producing well. Six essentially evenly spaced

peripheral monitor wells approximately 400 feet from pattern wells used to detect any possible horizontal excursion. Shallow well, in producing pattern, used to detect vertical excursion.

DISCUSSION

Mobil has carried out solution mining pilot testing since 1979 at a Section 9 Pilot Scale In-Situ Uranium mining facility at Crownpoint, New Mexico. The Section 28 project is to continue to gather data in technical, environmental, and economic AREAS. The acquistion of above cited data will support decision making in proceeding with a commercial size in-situ project within the South-Trend Development Area, Crownpoint New Mexico. The proposed Section 28 location WAS THE SUBJECT of broad baseline environmental studies that provide the basis for the environmental report submitted with the application. The studies included historical and current assessments of the social economic environment, cultural resources, geology, seismology, hydrology, water quality, meterology, air quality, radiological environment and ecology.

SITE LOCATION

The project is located in McKinley County in northwestern New Mexico, approximately two miles east of Crownpoint. The proposed project is located in the northwest quarter of Section 28, Township 17 North, Range 12 West, NMPM, within the Monument Project. Access to the site is by Interstate 40 west to Thoreau, then north approximately thirty miles on State Highway 57 to Crownpoint and to access road north for two miles. The towns of Crownpoint and Thoreau contain the nearest resident populations. Crowpoint, about two miles west of the site is the nearest population concentration with 31[illegible] inhabitants. There are 15,000 inhabitants within a 12 mile radius.

## WELL FIELD AND SURFACE FACILITY

The well field will cover 9.5 acres of surface and will consist of four injection wells with one production well. The production pattern consist of the typical five-spot arrangement with 200 feet well spacing. This production pattern is surrounded by six essentially, evenly spaced peripheral monitor wells set approximately 400 feet from pattern wells. An additional shallow monitor well is located in the western portion of the production pattern. This well is completed in the Dakota formation, first water bearing formation above Westwater Canyon. All monitor wells will be sampled every two weeks and analyzed for conductivity, uranium, molybdeum and sulfate to ensure the injected fluid is effectively contained.

The surface or recovery facilities will have the appearance of one building of prefabricated construction containing processing tanks with a surge tank located adjac ent to the facility, ringed with a concrete berm. Within the processing facility, under the floor is a drainage catchment system to contain spills and to recirculate any spilled fluids back into the processing loop. Trailers are located on the site for office space.

Access to the plant site is provided by an unimproved two mile dirt road from New Mexico State Highway 57. The solution plant area and evaporation pond will be fenced to restrict access by livestock and people. All gates will be posted with approved warning signs.

## PROPOSED PROCESS, EQUIPMENT AND PERSONNEL

The test facility will utilize a delute solution of groundwater buffered to a pH of about 8.3 using sodium hydroxide with carbon dioxide gas.

The sodium bicarbinate ion concentration of formation water will be raised to about 2,000 PPM. An oxidant (oxgen gas or hydrogen peroxide) will also be introducted to mobilize the uranium from the ore zone and transport it to the surface recovery circuit. The process equipment will include test well patterns, ion exchange vessels for absorption OR elution OF recovered uranium, and precipitation and thickening circuit for production of yellowcake slurry for storage and SUBSEQUENT truck shipment. No drying of product will be accomplished on the site. After well patterns have been leached, the applicant will implement a restoration demonstration program using groundwater sweep and withdrawal techniques. Water SWEEP will continue until the restoration HAS criteria approved by EID Ground Water Pollution Control Section been achieved.

Process waste streams will be sent by a buried pipeline to the waste evaporation pond approximately 800 feet from the processing facility.

The evaporation pond measures 160' x 160' (at bottom) by 7' deep with 4 to 1 slopes. Pond capacity IS nearly two million gallons. The pond will be overlain with a 30 mil cpe liner ~~and will be constructed according to plans prepared by a Professional Engineer licensed by the State of New Mexico.~~

After cessation of operations the remaining liquid in the pond will be allowed to evaporate and remaining solids will be removed to an approved burial site or by means acceptable to the regulatory agency. The area will be reclaimed by removing THE liner, which will be disposed of IAW applicable soild waste procedures. The site will be graded level with the terrain and reseeded.

The greater part of the radioactivity generated in naturally occuring uranium ores orginates from the daughter products of the natural uranium radioactive decay. The ~~major~~ MAJOR fraction of these daughters products (at least 95 percent) is not leached during the in-situ leach mining but remains in its natural location. Thus, the radioactivity brought to the surface is low level. This material excluding Rn-222 gas, would eventually report to the process waste stream.

The radioactivity levels normally encountered during conventional mining and milling will only be approached in the precipitation and slurry dewatering operations. Because the final product at the project site will be in a slurry form, radioactive dust conditions will be INSIGNIFICANT.

The staff concludes that radiation exposures should be minimal for the process, and exposure hazards associated with the operations will be very low. However, Rn-222 and uranium particulates measurements will be required in the plant processing building ~~housing~~ WHICH HOUSES the ion exchange and precipitation equipment and at other stratigic locales within and adjacent to the pilot project SITE.