

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION P.O. Box 968, Santa Fe, New Mexico 87503 (505) 827-5271

Thomas E. Baca, M.P.H., Director

RADIATION PROTECTION BUREAU

December 22, 1980

Bruce King GOVERNOR

George S. Goldstein, Ph.D. SECRETARY

Larry J. Gordon, M.S., M.P.H. DEPUTY SECRETARY

12/22/80

See Sept. 29 For EPA LOR Coquer to Maxime Good Bruce Gallaher

Clinton B. Spotts Regional EIS Coordinator (6ASAF) U. S. Environmental Protection Agency 1201 Elm Street Dallas, TX 75270

Dear Mr. Spotts:

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PDR

This is in response to your letter of September 5, 1980, concerning the License Application Analysis for the Mt. Taylor Uranium Mill Project prepared by the New Mexico Environmental Improvement Divison's Radiation Protection Bureau. We wish to thank you and your staff for an excellent and thorough review which unfortunately did not arrive until a public hearing on the application was in progress during the week of September 22-26, 1980. Nevertheless, your letter was placed in the hearing record and was considered during formulation of final recommendations by the Radiation Protection Bureau to the Director of the Environment Division.

Turning to your specific review comments and questions the majority, if not all, of these have been addressed in documentation provided by the applicant (listed in the Bibliography of the License Application Analysis), correspondence between the applicant and the Division, and the record of the public hearing. In addition, important State review functions were performed by the Water Pollution Control Bureau of the Division and the Office of the New Mexico State Environment (dam stability).

We have enclosed a document (Pre-Hearing Ground Water Discharge Plan Analysis) prepared by the EID Water Pollution Control Bureau which covers the potential impacts on ground water. If you desire any additional information concerning ground water, please contact Ms. Maxine Goad of the Water Pollution Control Bureau. Ms. Goad may be contacted at (505827-5271, ext. 321. Clinton B. Spotts December 22, 1980 Page 2

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Your interest in this action and in our licensing procedures is appreciated.

Sincerely, Theodore A. Wolff Chief

NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION HEALTH & ENVIRONMENT DEPARTMENT

DECEMBER 22, 1980

On appeal by Gulf these conditions declared invalid by Water Quality Control Commission on July 1, 1981. Commission), on same date, issued revised conditions along with reasons for each.

GULF MINERAL RESOURCES COMPANY

MT. TAYLOR URANIUM MILL

DISCHARGE PLAN (DP 117)

CONDITIONS

 After completion of the evaporation pond clay liner and prior to the deposition of tailings liquid data relating to the quality controls on the clay liner installation specified by "Technical Specifications, Mt. Taylor Uranium Mill Project Evaporation Pond Dam," dated March, 1980, shall be submitted by the applicant and approved by the Division.

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- (2) At least six months prior to the deposition of tailings in trenches, the applicant shall submit to the Division a description of procedures to be followed which will insure to the maximum extent practicable that the tailings will drain adequately by removal of solution from the trenches to lined ponds prior to final convering of the trenches.
- (3) At least six months prior to the deposition of tailings or associated liquids in the tailings disposal area, the applicant shall submit to the Division for review and approval a description of the procedures it will employ to enable a determination that the system is behaving as predicted with respect to seepage. This should include checks of the overall water balance, of seepage collected in cutoff trenches in monitor wells, of drainage of and moisture content in deposited tailings, of slimes settlement. This should include annual review of operations by qualified engineers, geologists, and/or hydrologists to determine whether operations are being conducted as proposed and to make recommendations for necessary design changes, changes in operating procedures, and/or changes in monitoring programs.
- (4) A minimum of six measurements shall be made of infiltration rates on surficial soils which overlie the tailings trench disposal area. Such tests shall be conducted at locations uniformly distributed over the disposal area. The results of the infiltration studies shall be used in designing reclamation plans. Such tests shall be made prior to commencement of any further construction in the tailings disposal area. The results of the tests shall be reported to the Division as soon as they become available.
- (5) High resolution vertical aerial colored photographs of scale 1" = 200' or 1 to 240C shall be made of the area within a one (1) mile radius of the proposed liquid and solid waste disposal facilities perimeter. Such photographs shall be made prior to commencement of any further construction in the La Polvadera Canyon area, and once every year thereafter following commencement of discharge in the area. Area of coverage for each set of photographs shall be identical. Photographs shall be certified by the photographer and submitted to EID as soon as prints are available.
- (6) The discharger shall notify the EID in writing prior to commencement of trench excavation, of the anticipated completion date of that excavation, and shall notify EID again when excavation has been completed. After excavation of any trench and prior to any tailings being discharged thereto, there shall be an EID inspection of the trench for fractures, unplugged drill holes, or any other feature which could provide avenues of excursion from the trench. If such features are found, effective

corrective action and/or additional monitoring as approved by EID shall be accomplished by the discharger before any discharge of tailings to the trench.

- (7) The discharger shall notify the EID in writing prior to the commencement of the excavation of the alluvium from the evaporation pond bottom of the anticipated completion date of that evacuation, and shall notify EID again when excavation has been completed. Before installation of the pond lining there shall be an EID inspection of the pond bottom, and the discharger shall perform a detailed examination of the joint and fracture systems present on the exhumed rock surface. If the examination by EID or by the discharger reveals significantly greater fracture related permeability than therefore considered in the seepage analyses, seepage assessment shall be revised to consider the effects of the enhanced permeabilities. If the revised seepage assessment suggest that discharges to the evaporation pond may cause the standards of Section 3-103 of the regulations to be exceeded in ground water at any place of present or reasonably forseeable future use, then effective corrective action as approved by EID shall be accomplished by the discharger before any discharge of wastes to the pond. If the Director determines that the proposed corrective action constitutes a modification to the discharge plan, an amendment to the plan shall be sought.
- (8) The discharger shall measure moisture contents in the cores obtained during the installation of shallow monitor wells in the La Polvadera Canyon area. The results of the tests shall be submitted to the EID as soon as they become available. If the measured moisture contents are significantly higher than theretofore considered in the seepage analyses, the discharger shall revise the seepage assessments to consider the effects of the increased moisture.
- (9) Prior to discharge of any waste products in La Polvadera Canyon, the discharger shall develop and submit for EID approval a revised monitoring system, and shall have received EID approval thereon. The information obtained from carrying out conditions (7) and (8) detailed above shall be used in developing the revised monitoring system.
- (10) The discharger shall on a quarterly basis, collect representative samples of the evaporation pond liquid and by measurement suitable to EID estimate the total volume of liquid in the pond. The liquid samples shall be analyzed for the standard constituents tabulated in Section 3-103 of the regulations and for total suspended solids.
- (11) Within three months of the start of mill construction, the discharger shall initiate laboratory test(s) to determine the long-term permeability of the proposed evaporation pond liner material under simulated conditions of hydrostatic loading, compaction and raffinate chemistry. Geochemical testing shall be performed during, and after the completion of the permeability experiments on the liner material and the raffinate solution. Details of these tests shall be approved by the EID prior to their implementation.



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George S. Goldstein, Ph.D. SECRETARY

Lorry J. Gordon, M.S., M.P.H. DEPUTY SECRETARY

CERTIFIED MAIL -RETURN RECEIPT REQUESTED

December 22, 1980

Mr. F. S. Mooney, Senior Vice President Gulf Mineral Resources Company 1720 South Bellaire Street Denver, Colorado 80222

Copy with notes from Wacc Mity on Gulf Coppeal - 6/18/81

Dear Mr. Mooney:

The discharge plan (DP-117) for Gulf's proposed Mt. Taylor Uranium Mill Project located in Tl3N, R8W, and Tl4N, R8W, McKinley Co., New Mexico is hereby approved subject to the conditions attached. The approved discharge plan consists of the plan submitted February 18, 1980 and all supplemental material subsequently submitted.

The discharge plan was submitted pursuant to Section 3-106 of the N.M. Water Quality Control Commission Regulations. It is approved pursuant to Section 3-109. Please note subsections 3-109.E. and 3-109.F., which provide for possible future amendment of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground waters which may be actionable under other laws and/or regulations.

The monitoring and reporting shall be as specified in the discharge plan and supplements thereto.

Pursuant to subsection 3-109.G.4., this plan approval is for a period of five (5) years. This approval will expire December 22, 1985, and you should submit an application for new approval in ample time before that date.

Sincerely,

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Thomas E. Baca, Director

cc: District Manager EID Central Office, Ground Water Section

NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION HEALTH & ENVIRONMENT DEPARTMENT

DECEMBER 22, 1980

GULF MINERAL RESOURCES COMPANY MT. TAYLOR URANIUM MILL DISCHARGE PLAN

(DP 117)

CONDITIONS

(1) After completion of the evaporation pond clay liner and prior to the deposition of tailings liquid, data relating to the quality controls on the clay liner installation specified by "Technical Specifications, TTER I.I.I Mt. Taylor Uranium Mill Project Evaporation Pond Dam," dated March, 1980, shall be submitted by the applicant and approved by the Division.

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- At least six months prior to the deposition of tailings in trenches, (2) the applicant shall submit to the Division a description of procedures STEPT IP.16 to be followed which will insure to the maximum extent practicable that the cailings will drain adequately by removal of solution from the trenches to lined ponds prior to final convering of the trenches.
- At least six months prior to the deposition of tailings or associated (3) liquids in the tailings disposal area, the applicant shall submit to the Division for review and approval a description of the procedures it will employ to enable a determination that the system is behaving NRC as predicted with respect to seepage. This should include checks of 1639 the overall water balance, of seepage collected in cutoff trenches in monitor wells, of drainage of and moisture content in deposited tailings, of slimes settlement. This should include annual review of operations by qualified engineers, geologists, and/or hydrologists to determine whether operations are being conducted as proposed and to make recommendations for necessary design changes, changes in operating procedures, and/or changes in monitoring programs.
- (4) A minimum of six measurements shall be made of infiltration rates on surficial soils which overlie the tailings trench disposal area. Such RECOMMENDED tests shall be conducted at locations uniformly distributed over the disposal area. The results of the infiltration studies shall be used in designing reclamation plans. Such tests shall be made prior to commencement of any further construction in the tailings disposal area. The results of the tests shall be reported to the Division as soon as they become available.
- (5) High resolution vertical aerial colored photographs of scale 1" = 200' or 1 to 2400 shall be made of the area within a one (1) mile radius of the proposed liquid and solid waste disposal facilities perimeter. Such photographs shall be made prior to commencement of any further construc-EY NRC tion in the La Polvadera Canyon area, and once every year thereafter following commencement of discharge in the area. Area of coverage for each set of photographs shall be identical. Photographs shall be certified by the photographer and submitted to EID as soon as prints are available.
- (6) The discharger shall notify the EID in writing prior to commencement of NRC TTEM 2 (a) trench excavation, of the anticipated completion date of that excavation, and shall notify EID again when excavation has been completed. After excavation of any trench and prior to any tailings being discharged thereto, there shall be an EID inspection of the trench for fractures. unplugged drill holes, or any other feature which could provide avenues of excursion from the trench. If such features are found, effective

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- (8) The discharger shall measure moisture contents in the cores obtained NOT RECOMMENDED during the installation of shallow monitor wells in the La Polvadera Canyon area. The results of the tests shall be submitted to the EID NOT NEL as soon as they become available. If the measured moisture contents are significantly higher than theretofore considered in the seepage analyses, the discharger shall revise the seepage assessments to consider the effects of the increased moisture.
 - NRG (9) Prior to discharge of any waste products in La Polvadera Canyon, the discharger shall develop and submit for EID approval a revised monitoring NRC NEED system, and shall have received EID approval thereon. The information P.17 obtained from carrying out conditions (7) and (8) detailed above shall be used in developing the revised monitoring system.

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- (10)The discharger shall on a quarterly basis, collect representative 107 RECEMBRIDED samples of the evaporation pond liquid and by measurement suitable to EID estimate the total volume of liquid in the pond. The liquid samples by NRC NOT NEL shall be analyzed for the standard constituents tabulated in Section 3-103 of the regulations and for total suspended solids.
 - (11) Within three months of the start of mill construction, the discharger shall initiate laboratory test(s) to determine the long-term permeability of the proposed evaporation pond liner material under simulated conditions of hydrostatic loading, compaction and raffinate chemistry. Geochemical testing shall be performed during, and after the completion of the permeability experiments on the liner material and the raffinate solution. Details of these tests shall be approved by the EID prior to their implementation.