



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 19, 1996

Michele Schuler
Environmental Coordinator
Morton International, Inc., Morton Salt Division
13000 West Glendale Avenue
Glendale, AZ 85307-2408

Re: Modifications to UIC Permit #AZS 000 000 004 (Roach-Baker #3) and AZS 000 000 005 (Roach-Baker #4)


Dear Ms. Schuler:

During the public comment period, no comments were submitted to EPA on the proposed permit modifications to Roach-Baker #3 and Roach-Baker #4. In accordance with 40 CFR 124.15, the enclosed permit modifications are hereby issued upon the date of this letter and shall become effective immediately.

Please keep a copy of this letter and the enclosed modifications with your current UIC permits.

If you have any questions, please call Gregg Olson of my staff at (415) 744-1828.

Sincerely,


Alexis Strauss, Acting ~~Chief~~ Director
Water Division

Enclosures

Modifications to UIC Class III Permits

Date: November 19, 1996

Permit Identification Numbers: AZS 000 000 004 (Roach-Baker #3)
AZS 000 000 005 (Roach-Baker #4)

Facility Name and Address: Morton International, Inc., Morton Salt Division
13000 West Glendale Avenue
Glendale, AZ 85307-2408

Roach-Baker #3 (RB #3)

Page/Permit Condition

throughout permit/name change

Modification

"Southwest Salt Company" shall be replaced with "Morton International, Inc., Morton Salt Division."

Page/Permit Condition

pg. 9/Mechanical Integrity Testing

Modification

Section I.G.3 shall be modified to read as follows:

A demonstration of both internal and external mechanical integrity in accordance with 40 CFR 146.8 and 146.33(b)(3) shall be made no later than five years from the date of the last approved demonstration. Mechanical integrity shall also be demonstrated any time a loss of mechanical integrity becomes evident during operation. The permittee shall notify the Director of his intent to demonstrate mechanical integrity at least 30 days prior to such demonstration. The permittee shall report the results of a mechanical integrity demonstration within 90 days after completion.

Page/Permit Condition

pg. 11/Injection Formation

Modification

Section II.B.1 shall be modified to read as follows:

Injection shall be limited to the Luke Salt Body in the interval between 1290 feet and 3700

feet below land surface. In no event shall the roof of the solution cavern be developed in such a manner that dissolution of the overlying anhydrite beds takes place or that injection brines or seal fluids are allowed to migrate into any overlying formation.

Page/Permit Condition

pg. 11/Injection Pressure Limitation

Modification

The following paragraph shall be added to the end of Section II.B.2:

The maximum injection pressure measured at the wellhead, shall not exceed 452 psi during operation of the well. In the event of an increased salt cavity ceiling height or modification of the injection tubing length, the permittee shall notify the Director. A reduced maximum injection pressure shall be calculated and injection shall not commence until such calculations have been submitted to and approved by the Director.

Page/Permit Condition

pg. 12/Salt Cavern Roof

Modification

Section II.B.7 shall be inserted and read as follows:

7. Salt Cavern Roof

Depth below ground surface of the salt cavern ceiling shall be determined once every three (3) years.

Page/Permit Condition

pg. 12-14/Monitoring

Modification

Section II.C.5 shall be replaced by the following monitoring frequency requirements:

Parameter	Monitoring Frequency	Sample Type
injection rate, vol/time	continuous	Recorder
injection total	continuous	Totalizer
volume, gallons		
injection pressure, psig	continuous	Recorder
produced fluid total	continuous	Totalizer
volume, gallons		

Page/Permit Condition

pg. 14/Reporting Requirements

Modification

Section II.D.1.b shall be replaced by the following: Monthly average, maximum and minimum values for injection pressure, injection rate, and total injection volume and production volume.

Page/Permit Condition

Attachments

Modification

The subsidence monitoring program for Roach-Baker #4 shall also apply to Roach-Baker #3.

Roach-Baker #4 (RB #4)

Page/Permit Condition

throughout permit/name change

Modification

"Southwest Salt Company" shall be replaced with "Morton International, Inc., Morton Salt Division."

Page/Permit Condition

pg. 10/Mechanical Integrity Testing

Modification

Section I.H.4 shall be modified to read as follows:

A demonstration of both internal and external mechanical integrity in accordance with 40 CFR 146.8 and 146.33(b)(3) shall be made no later than five years from the date of the last approved demonstration. Mechanical integrity shall also be demonstrated any time a loss of mechanical integrity becomes evident during operation. The permittee shall notify the Director of his intent to demonstrate mechanical integrity at least 30 days prior to such demonstration. The permittee shall report the results of a mechanical integrity demonstration within 90 days after completion.

Page/Permit Condition

pg. 11/Mechanical Integrity Testing

Modification

Section I.H.6 shall be deleted.

Page/Permit Condition

pg. 13/Injection Formation

Modification

Section II.B.1 shall be modified to read as follows:

Injection shall be limited to the Luke Salt Body in the interval between 1110 feet and 5000 feet below land surface. In no event shall the roof of the solution cavern be developed in such a manner that dissolution of the overlying anhydrite beds takes place or that injection brines or seal fluids are allowed to migrate into any overlying formation.

Page/Permit Condition

pg. 13/Salt Cavern Roof

Modification

Section II.B.2 shall be modified to read as follows:

The permittee shall maintain a minimum salt cavern roof thickness of 200 feet between the overlying anhydrite layer and salt cavern ceiling unless a written request is sent to the Director and written permission is given by the Director to maintain a thickness of less than 200 feet. Depth below ground surface of the salt cavern ceiling shall be determined once every three (3) years. Control of dissolution of the cavern ceiling may include, but not be limited to, injection of fuel-oil to act as a seal fluid blanket.

Page/Permit Condition

pg. 13/Injection Pressure Limitation

Modification

The second paragraph in section II.B.3 shall be modified to read as follows:

The maximum injection pressure measured at the wellhead, shall not exceed 613 psi during operation of the well. In the event of an increased salt cavity ceiling height or modification of the injection tubing length, the permittee shall notify the Director. A reduced maximum injection pressure shall be calculated and injection shall not commence until such calculations have been submitted to and approved by the Director.

Page/Permit Condition

pg. 15/Monitoring

Modification

Section II.C.5 shall be replaced by the following monitoring frequency requirements:

Parameter	Monitoring Frequency	Sample Type
injection rate, vol/time	continuous	Recorder
injection total volume, gallons	continuous	Totalizer
injection pressure, psig	continuous	Recorder
produced fluid total volume, gallons	continuous	Totalizer
water filled annular pressure, psig	continuous	Recorder
seal fluid total volume injected, gallons	daily	Measured
maximum seal fluid injection pressure, psig	daily	Measured

Page/Permit Condition

pg. 16/Continuous Monitoring Devices

Modification

Section II.C.6 shall be modified to read as follows:

Continuous recording devices shall be installed at the wellhead and used to monitor injection rate, injection and annular pressure, and volume of injected and produced fluids.

Page/Permit Condition

pg. 16/Reporting Requirements

Modification

Section II.D.1.b shall be replaced by the following: Monthly average, maximum and minimum values for injection pressure, injection rate, seal fluid volume, and total injection volume and production volume.