UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 10, 2011

Ms. Melissa Hadley
Morton Salt International, Inc.
13000 West Glendale Ave.
Glendale, AZ 85307-2408

Re: Underground Injection Control (UIC) Permit #AZS 000 000 005004
RB #3, Glendale, Arizona
Minor Permit Modification

Dear Ms. Hadley:

Enclosed is a Minor Modification to Permit No. AZS 000 000 005 004, issued to Morton Salt Company for operation of RB #3. This minor permit modification is issued in accordance with UIC regulations at 40 CFR §144.41. The permit modification is effective immediately.

This modification authorizes two additional sources of injectate as well as the requirements for notification, testing and monitoring of this injectate. It also includes requirements for casing inspection logs, as well as updating the analytical test methods. These changes, as well as the updated reporting requirements, will be consistent with the current operations of RB #4 and the future operations at RB #5.

If you have any questions regarding the permit conditions, please call Michele Dermer at (415) 972-3417.

Sincerely,

David Albright,
Manager, Ground Water Office

Enclosure: Minor Modification

cc: Vimal Chauchan, ADEQ

MINOR MODIFICATION TO PERMIT NO. AZS000000004
ROACH-BAKER #3

In accordance with 40 CFR §144.41, it is understood and agreed that this permit has been modified to revise the name of the Permittee, and to incorporate additional permit requirements. Modifications are as follows:

Page/Permit Condition
Throughout entire permit: "Morton International, Inc., Morton Salt Division" shall be replaced with "Morton Salt, Inc."

Page/Permit Condition
Page 11 – A. CONSTRUCTION: 1. Casing and Cementing – add new requirement as follows:

a. A casing inspection log (CIL) to the final depth should be completed by no later than the end of 2011 to determine the current condition of the 9 5/8 " production casing. Subsequent CILs will be conducted as outlined below (see Attachment S for Casing Inspection Log Guidance), or when otherwise requested by EPA:

   i. If metal loss of nominal casing thickness is greater than 70%, Permittee shall repair the casing or plug and abandon the well. After the casing is repaired, Permittee shall verify the integrity of the casing by conducting a Water Brine Interface Test (WBIT) or equivalent, and an additional CIL subject to EPA approval prior to recommencing injection in the repaired well. The required WBIT procedure shall be submitted to EPA for approval prior to conducting the test.

   ii. If metal loss of nominal casing thickness is between 40 and 70%, Permittee shall conduct a WBIT as described in the previous paragraph and shall monitor casing loss by conducting additional CILs every three (3) years.

   iii. If the metal loss of nominal casing thickness is between 20 and 40%, Permittee shall monitor metal loss by conducting additional CILs every five (5) years.

   iv. If the metal loss of nominal casing thickness is 20% or less, Permittee may continue normal injection operations. Permittee shall conduct a follow-up CIL in ten (10) years.

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Page 12 – B. OPERATIONS: 4. Additional Injection Limitation: add new requirements as follows:

In well RB #3, Permittee uses diesel as a blanket fluid to control the shape and height of the cavern. Any proposed modification of the use of this blanket fluid must be submitted to EPA for approval. Upon well closure and prior to abandonment, this blanket fluid is to be removed, to the extent possible, pursuant to the P& A plan (Attachment Q).

Two additional sources of injectate, other than fresh water, may be injected into well RB #3. The first additional source of injectate is comprised of the undersaturated brine from Permittee's development of RB #5. The injection of this fluid, through piping from RB #5 to RB#3, is estimated to be required until the saturated brine can be produced at a commercially usable rate of 200 gallons per minute, at which point the brine from RB#5 will be discharged to the evaporative ponds. The Permittee is required to notify EPA 30 days prior to initial injection of this fluid. In addition, the Permittee must submit to EPA, prior to initial injection, analytical results of this fluid in accordance with the test method requirements in permit condition C. MONITORING: 2. Injection fluid analysis. Once injection of this fluid proceeds, analytical results shall be reported to EPA on a quarterly basis, and included in the quarterly report. The Permittee shall notify EPA within 72 hours upon the permanent cessation of the injection of this additional fluid.

The second additional source of injectate is the dredged material from the North and South (on site) reclaim ponds. Removal of the sediment/brine from the reclaim ponds using a portable dredge is anticipated every 3-10 years, depending on the rate of sediment accumulation. This permit authorizes injection of the dredged material no more frequently than every 3 years, provided that each time this injection becomes necessary, the Permittee notifies EPA at least 30 days prior to the injection of the fluid. In addition, each time this injection becomes necessary, the Permittee must submit to EPA, prior to injection, analytical results of this fluid in accordance with the test method requirements in permit condition C. MONITORING: 2. Injection fluid analysis. Analytical results of the injectate shall also be reported to EPA in the next quarterly report. If the injection of this fluid continues beyond one quarter, injectate analyses (conducted in accordance with the test method requirements below) must be included in the subsequent quarterly report. The Permittee shall notify EPA, each time, within 72 hours upon the cessation of the injection of this additional fluid. This notification and approval process is required for each and every subsequent injection of sediment/brine from the reclaim ponds.

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Page 13 – C. MONITORING: 2. Injection fluid analysis: add the following new requirement:

Injection fluids shall be analyzed to yield representative data on their physical, chemical, or other relevant characteristics. For regular operations, Permittee shall take samples at or before the wellhead for analysis. Test results shall be submitted to EPA on an annual basis. Prior to injection of the two additional sources of injectate as authorized above, representative samples should be taken and results submitted to EPA as required.

Samples and measurements shall be representative of the monitored activity. The Permittee shall utilize applicable analytical methods described in Table I of 40 CFR §136.3 or in EPA Publication SW-846,"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," unless other methods have been approved by EPA.

Summary of acceptable analytic Methods:

Inorganic Constituents – appropriate USEPA methods for Major Anions and Cations (including an anion/cation balance).

Solids – Standard Methods 2540C and 2540D for Total Dissolved Solids and Total Suspended Solids.

General and Physical Parameters – appropriate USEPA methods for Temperature, Turbidity, pH, Conductivity, Hardness, Specific Gravity, Alkalinity, and Biological Oxygen Demand ("BOD"); and Density and Viscosity (See EPA Bulletin 712-C-96-032) under standard conditions.

Trace Metals – USEPA Method 200.8.

Page/Permit Condition
Page 14 – C. MONITORING: 6. Continuous Monitoring Devices - add new requirement as follows:

Temperature and injection pressure shall be measured at the wellhead using equipment of sufficient precision and accuracy. All measurements must be recorded at minimum to a resolution of one tenth of the unit of measure, except temperature (e.g. injection and production rates and volumes must be recorded to a resolution of a tenth of a gallon; pressure must be recorded to a resolution of a tenth of a psig; injection fluid temperature must be recorded to a resolution of one degree Fahrenheit). Exact dates and times of measurements, when taken, must be recorded and submitted. Injection and production rates shall be measured at or near the wellhead.

The Permittee shall continuously monitor and record the following parameters at the prescribed frequency, using the listed instrument:

Monitoring Parameter	**Frequency**	**Instrument**
Injection rate (gallons per minute)	continuous	digital recorder
Injection volume (gallons)	continuous	digital totalizer
Total Cumulative Injection Volume (gallons)	daily	digital totalizer
Injection pressure (psig)	continuous	digital recorder
Injection fluid temperature (degrees Fahrenheit)	daily	digital recorder
Produced fluid volume (gallons)	continuous	digital recorder
Produced fluid temperature (degrees Fahrenheit)	daily	digital recorder

Page/Permit Condition
Page 14 – C. MONITORING, add new requirement as follows:

Ratio of Injected Volume to Produced Volume Limitation

If over a calendar month period (as determined by a review of the monthly ratio during the last five days of the calendar month) the average ratio of injected to produced brine falls outside the range of 0.95 to 1.1, a written explanation shall be included in the quarterly report. If over a calendar month period the ratio of injected to produced brine averages higher than 1.15, the Permittee must report this condition to EPA within 24 hours, and immediately cease injection into RB #3. In this circumstance, the Permittee shall conduct an investigation to determine the cause of this abnormal ratio. The Permittee shall submit to EPA a report of the investigation within 15 days of cessation of injection into the well.

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Page 16 – D. REPORTING REQUIREMENTS, add new requirements as follows:

(d) To be included in the quarterly report due in January each year, the following additional information: Annual reporting summary (EPA Form 7520-11).

(e) A narrative description of any non-compliance, including an explanation of any injection to production ratio abnormalities, (as described above), as well as any other non-compliance that occurred during the reporting period.

Page/Permit Condition

ATTACHMENT Q – Plugging and Abandonment Plan: the plan included in the permit is deleted in its entirety, and replaced with the following new plan:

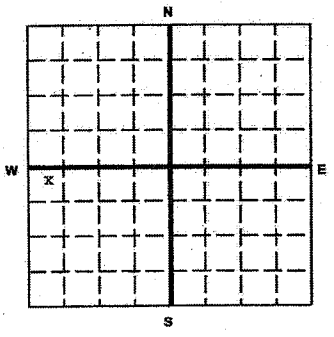
OMB No. 2040-0042 Approval Expires 12/31/2011

United States Environmental Protection Agency
Washington, DC 20460

PLUGGING AND ABANDONMENT PLAN

Name and Address of Facility	Name and Address of Owner/Operator
Morton Salt, Inc. 13000 West Glendale Avenue, Glendale, Arizona 85307-2408	Same.

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Arizona	Maricopa	AZ000000004

Surface Location Description

1/4 of nw 1/4 of nw 1/4 of sw 1/4 of Section 2 Township 2N Range 1W

Locate well in two directions from nearest lines of quarter section and drilling unit Surface

Location ____ ft. frm (N/S) ____ Line of quarter section

and ____ ft. from (E/W) ____ Line of quarter section.

TYPE OF AUTHORIZATION	WELL ACTIVITY
☑ Individual Permit	☐ CLASS I
☐ Area Permit	☐ CLASS II
☐ Rule	☐ Brine Disposal
Number of Wells 1	☐ Enhanced Recovery
	☐ Hydrocarbon Storage
	☑ CLASS III
Lease Name Morton Salt	Well Number Roach-Baker #3

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
9 5/8	36		1528	cmt.
7 5/8	26.4		1520	cmt

METHOD OF EMPLACEMENT OF CEMENT PLUGS

☑ The Balance Method
☐ The Dump Bailer Method
☐ The Two-Plug Method
☐ Other

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inche	6.97"	6.97"					
Depth to Bottom of Tubing or Drill Pipe (ft							
Sacks of Cement To Be Used (each plug)	110	220					
Slurry Volume To Be Pumped (cu. ft.)	130	260					
Calculated Top of Plug (ft.)	1000	surface					
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	1.18	1.18					
Type Cement or Other Material (Class III)	Class III	Class III					

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To

Estimated Cost to Plug Wells

$65,530 See the attached cost estimate

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

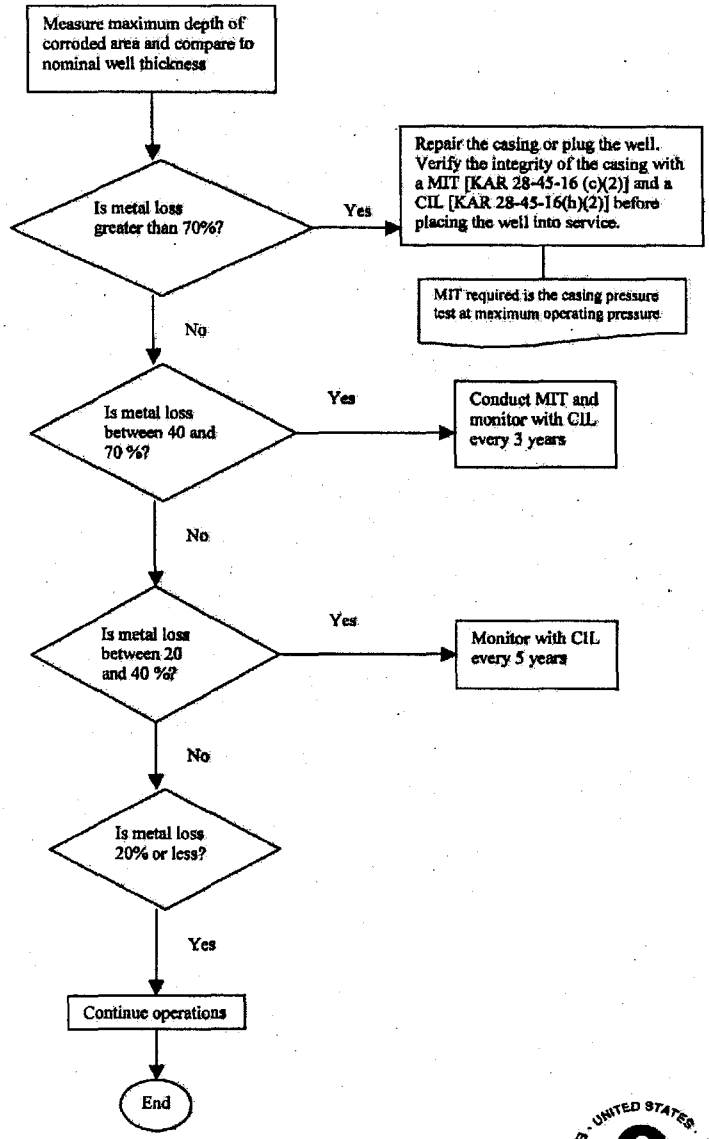
Name and Official Title (Please type or print)	Signature	Date Signed
Melissa Hadley, Facility Manager	Melissa Hadley	1/10/11

EPA Form 7520-14 (Rev. 12-08)

Page/Permit Condition

ATTACHMENT S – the permit is modified to include the following new guidance regarding casing inspection logs:

EPA Region 9
Guidance for Casing Inspection Log Results
UIC Underground Injection Wells



U.S. Environmental Protection Agency, Region 9
Underground Injection Control Program
October 2008

Adapted from Kansas Dept. of Health and Environment
Bureau of Water/Geology Section, July 2003

All other permit conditions remain unchanged.

This minor modification is issued and effective on

1 June 2011

Alexis Strauss

Alexis Strauss, Director
Water Division