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AL
ref file

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SANTA FE, NEW MEXICO 87504-2208
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June 9, 1989

HAND-DELIVERED

Mr. Robert G. Stovall
General Counsel
Oil Conservation Division
New Mexico Department of
Energy, Minerals and
Natural Resources
State Land Office Building
Santa Fe, New Mexico 87503

Re: Case 9637
Application of Grand Resources Inc. for a Waterflood
Project, San Juan County, New Mexico

Case 9673
Application of Grand Resources Inc. for a Unit Agreement,
San Juan County, New Mexico

Dear Bob:

This letter is in response to our telephone conversation concerning the provisions of Oil Conservation Division Rule 701 which limit a waterflood project area to only tracts on which there is either an injection or a producing well.

As you are probably aware, this provision in Rule 701 was adopted by Division Order R-1525 in November, 1959. This occurred at a time when production from waterflood projects was having a negative impact on primary oil allowables (2 to 3 barrels per day). The Division, therefore, decided to prorate production from waterflood projects, and to do so it was necessary for there to be a well on each tract before an allowable could be assigned thereto.

Mr. Robert G. Stovall
General Counsel
Oil Conservation Division
June 9, 1989
Page 3

project area could be expanded with additional development.

I have been informed by Grand that the EPA has verbally approved our injection plans and we will supply you with a copy of written approval of this and other governmental agencies upon receipt.

If you have further questions concerning this matter, do not hesitate to call.

Best regards.

Very truly yours,



WILLIAM F. CARR

WFC:mlh

cc: Mr. Marvin Robinowitz
Mr. David Catanach

Mr. Robert G. Stovall
General Counsel
Oil Conservation Division
June 9, 1989
Page 2

In my experience, the Division has not excluded tracts from a waterflood project area because it did not have a well on it. It is my opinion that this requirement could be contrary to the general duties of the Division to prevent waste and correlative rights. For example, if there was a proposed waterflood project consisting of three 40-acre tracts with an injection well on the tract on the west, a producing well on the tract on the east and no well on the tract in the middle, waterflood operations could not be implemented without either (1) sweeping oil from the middle tract thereby impairing the correlative rights of the owners thereof, or (2) drilling an unnecessary well on the middle tract thereby causing economic waste.

I concur with you that this is a problem which should be addressed by the Division, and am available to meet with you on this matter at your convenience. I would suggest that Tom Kellahin be included in such a meeting since I understand the same questions are involved in a recent Wagner & Brown case in which his firm represents the applicant.

As to the Grand applications, I do not believe that this situation will be a problem.

First, the application for a voluntary unit should not be affected. We now have 100% voluntary commitment from the working interest owners and, based on our discussions with federal authorities, expect approval of the BLM and the Navajo Nation in the immediate future, thereby giving us joinder of 100% of the royalty interest.

David Catanach has requested that we supply a development plan for acreage on which there are currently no wells. Like other units, however, we will need to see how the waterflood project performs before we are able to develop such plans and believe the Order entered in this case should provide that Grand supply this information to the Division at regular intervals.

The application for waterflood project can be approved by the Division with a project area limited to tracts on which wells are located (injection wells and producing wells). This smaller project area will not affect the allocation of production for the working interest proceeds will be governed by voluntary agreement of the parties in the unit agreement and all royalty interest is common throughout the unit. We would, however, need to have an administrative procedure authorized by the Order whereby the



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

September 15, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

William F. Carr, Esq.
Campbell & Black, P.A.
P. O. Box 2208
Santa Fe, New Mexico 87504-2208

Re: Waterflood Project Area Rule 701 F

Dear Bill:

It has been some time since we have had the discussion regarding the interpretation of Rule 701 and since you wrote me your June 9th letter regarding the Grand Resources application. Although I realize the order has been signed, I thought it might be appropriate to let you know that I have actually figured out what that rule means and does.

After reading your letter and having some discussions with Vic Lyon and Bill LeMay, I have concluded that Rule 701 F (2) really does make sense and does not need to be changed.

As you indicated in your letter, and as I realized at the time I was looking into the matter, the definition of the project area and the unit area are not necessarily the same. As you noted in your letter, the unit agreement and unit operating agreement establish, among other things, the allocation formula by which revenue and expenses will be shared by the parties to the agreement. This is true whether it is a statutory or voluntary unit.

Rule 701 F (2) is designed to define the project area which will receive the allowable provided for in Rule 701 F (3), which essentially is an allowable equal to the ability of the wells to produce without respect to depth bracket allowable. Because that unrestricted allowable is given to encourage waterflood projects, it is appropriate that only the proration units which "benefit" from the waterflood should receive the unrestricted allowable.

Therefore, the project area is defined as proration units which have injection wells and additional proration units which producing wells and which can be demonstrated at a hearing to benefit from the waterflood.

Proration units which do not have wells on them obviously are not entitled to an allowable and therefore are not included within the project area. Should those units subsequently be developed with a well and otherwise qualify for inclusion within the project, they can be included administratively.

Similarly, as a waterflood project proves viable and is expanded to include additional injection wells, additional producing wells which are either offsetting or otherwise would benefit have their proration units brought within the project area administratively.

As far as the proration units without wells on them, the waste and correlative rights issues are addressed because the owners of those proration units presumably will share in costs and proceeds pursuant to the allocation formula under the unit agreement. The oil underlying an undeveloped proration unit between an injection well and producing well will be driven to the producing well and produced, thus preventing waste, and the owners thereof will receive their share of the proceeds according to the formula, thus protecting their correlative rights.

While I would agree that the unit area and the project area need not, and in most cases, will not be the same, I would say that with two caveats. The first is that the entire project area should be included within the unit boundaries. That is there should not be any wells within the project area which are not a part of the unit, the exception being where there are boundary agreements of some sort. Secondly, where the unit area is substantially larger than the project area, there should be a plan of development presented at the time the unit and project are submitted for approval which shows that if the waterflood project is deemed feasible, that additional injection wells will be put on line to expand the project area to bring substantially all of the unit into the project. (This caveat is based upon the presumption that it would not be appropriate to charge interest owners within the unit for the costs of developing a waterflood project if, in fact, there is no substantial benefit to them or their tracts from the project or conversely that it would not be fair to allocate a share of the enhanced production from the waterflood project to tracts which are not actually contributing to the project.)

Unless you feel my interpretation of 701 F (2) and 701 F (3) as read together does not make sense, it is my opinion that no further action is needed with respect to the rules and, in fact, that they can be literally interpreted and the project area defined in

accordance with 701 F (2) and properly protect the correlative rights and prevent waste in a waterflood project. If you still think there is some area that might be in need of discussion, I would be more than happy to discuss it with you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bob", is positioned above the typed name.

ROBERT G. STOVALL,
General Counsel

RGS/dr

AUG 8 1989

Certified Mail 7/17/89 780 - Return Receipt Requested

Mr. Harvey J. Robinson, President
Grand Resources, Incorporated
2250 East Third Street, Suite 400
Tulsa, Oklahoma 74104

RECEIVED

AUG 11 1989

**OIL CONSERVATION DIV.
SANTA FE**

Re: underground Injection Control Permit
Permit No. 90581NRP0000 - San Juan County, New Mexico

Dear Mr. Robinson:

Enclosed is a copy of the final permit referenced above and our response to comments received on the draft permit.

Please read the entire permit so that you can become familiar with the effective date and the conditions of the permit. In response to comments received, permit condition 1.B.1. has been modified. Please pay special attention to permit condition number 1.B.1. which requires that you receive an "Authorization to Inject" from this office prior to operating this well except to conduct the required step-rate test. "Authorization to Inject" will not be granted until the operator has satisfactorily demonstrated compliance with special permit conditions 1.A.1., 1.A.2., 1.A.3., 1.B.1., and 1.B.2. In accordance with underground Injection Control regulations 40 CFR 124.15(e), the effective date of this permit is 30 days after the date of this letter. The Regional Administrator will review each issued permit at least once every five (5) years to determine whether it should be modified or terminated.

If you have any questions, please call Mr. Betty West in Dallas at (214) 695-7165.

Sincerely yours

/s/ Myron D. Knudson

Myron D. Knudson, P.E.
Director
Water Management Division, O&G

Enclosures

cc: with well owner:
New Mexico Tribe
BIA, Dallas, New Mexico
EIA, San Juan, New Mexico

✓ New Mexico Oil Conservation Division, Santa Fe, New Mexico

ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL (UIC) PERMIT

Permit No. 06SNWZP9002
Well No. C-5

AUTHORIZATION TO CONVERT A WELL TO
AN INJECTION WELL UNDER THE UIC PROGRAM
NAVAJO NATION

In compliance with the provisions of the Safe Drinking Water Act, (hereafter referred to as "the Act" or "SDWA") as amended (42 U.S.C. 300f et seq.),

Grand Resources, Incorporated
2250 East 73rd Street, Suite 400
Tulsa, Oklahoma 74136

is authorized to convert a well to a Class II enhanced oil recovery injection well in San Juan County, New Mexico at:

2310 feet from the South line and 380 feet from the West line, SW Quarter, Section 14, Township 32N, Range 18W into the injection interval at a depth of 1641 feet to 1540 feet below land surface in the Gallup Sand in accordance with the construction and operation requirements, injection pressure limits, reporting and monitoring requirements, and other conditions set forth in Parts I and II of this permit and the New Mexico Indian Lands Class II Underground Injection Control Program and Regulations.

Authorization to inject fluids into the well described in this permit except to conduct the required step-rate test, shall be separately granted. Such authorization may be verbally granted by the Chief, UIC Permits and Enforcement Section when the operator has satisfactorily demonstrated compliance with special permit conditions I.A.1., I.A.2., I.A.3., I.B.1., and I.B.2. Any verbal authorization to inject will be followed by a written "Authorization to Inject" from the Director, Water Management Division (WMD).

AUG 08 1989

This permit shall become effective on _____ for conversion and for injection on the date specified in the "Authorization to Inject." Upon authorization to inject, this permit shall remain in effect until the well is plugged and abandoned or the permit is terminated.

AUG 08 1989

Signed UICs _____ day of _____ 19 _____

/s/Myron O. Knudson

Myron O. Knudson, P.E.
Director, Water Management Division
Environmental Protection Agency
Region 6

Part I. SPECIAL PERMIT CONDITIONS

A. Construction Requirements

1. Surface casing shall be set at 30 feet below land surface and cemented back to the surface. The long string casing shall be set at 1749 feet below land surface and cemented with 35 sacks of cement.
2. The well shall be equipped with standard female fittings with cut-off valves connected to the tubing and the tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an EPA representative by attaching a gauge having a standard male fitting.
3. Tubing and packer must be installed. The packer must be run on the tubing and set inside the casing between 1560 and 1620 feet of depth below the land surface.

B. Operating Requirements

1. Authorization to inject will not be granted until the permittee shows to the satisfaction of the WDOJ pursuant to 40 CFR 146.3 that the well has mechanical integrity. The well's mechanical integrity must be demonstrated prior to the start of injection and at least every five years thereafter. The permittee must notify the EPA Region 6 OIC office at least 14 days prior to mechanical integrity testing so that an EPA representative can witness the test.
2. The maximum injection pressure at the wellhead shall be determined by the results of a step-rate test. The permittee shall conduct a step-rate test on this well and submit the data to the EPA Region 6 OIC office. Based on the results of the test, EPA will establish the maximum allowable injection pressure and notify the operator by letter. That letter shall become a part of this permit.
3. The permittee is authorized to inject salt water for enhanced oil recovery.
4. Injection volume shall be limited to 15,000 barrels per month.

C. Plugging and Abandonment Requirements

1. After a cessation of operations of two years, the operator shall plug and abandon the well in accordance with the following procedures:
 - (a) Set a cast iron bridge plug (CIBP) at 1550 feet below the land surface and spot a minimum of 10 feet of cement in the CIBP;
 - (b) Shoot off 4-1/2 inch casing at free point;
 - (c) Circulate cement from 100 feet below the land surface to the surface with interval between the cement plugs filled with drilling mud with a density of at least 9 pounds per gallon.
2. Permittee shall notify the RA at least 45 days before plugging and abandonment. Any modifications to the above referenced procedures shall be included in this notice.
3. Within 60 days after plugging, a plugging report must be submitted. The report must include:
 - (a) A statement that plugging was complete in accordance with special permit condition I.C.1.; or
 - (b) If actual plugging differed from requirements of special permit condition I.C.1., specify the different procedures used.

Part II. CONDITIONS APPLICABLE TO ALL PERMITS

A. Confidentiality

Any information except the permittee's name and address and information concerning the existence, absence or level of contaminants in drinking water may be claimed as confidential. Any claim of confidentiality must be asserted at the time of submission. If no claim is made, EPA may make the information available to the public without further notice.

B. Duty to Comply

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification.

Compliance with the terms of this grant does not constitute a defense to any action brought under Section 1431 of the Safe Drinking Water Act (SDWA) or any other law for any imminent or substantial endangerment to human health or the environment or for any breach of any other applicable legal duty.

2. The permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in a temporary emergency permit under 40 CFR 144.34.

C. Duty to Halt or Reduce Activity

It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Migrate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

E. Proper Operation and Maintenance

1. All injection wells must have and maintain mechanical integrity consistent with 40 CFR 146.8(b)(1) and 147.3010. Mechanical integrity must be demonstrated initially and also any time the tubing is removed from the well, the packer is reset, or a loss of mechanical integrity becomes evident during operation.

Further, the Regional Administrator (RA) may by written notice require the permittee to demonstrate mechanical integrity at any time. The permittee shall notify the EPA Region 6 UIC office of his intent to prove mechanical integrity at least 14 days prior to such demonstration. The permittee shall report the results of the mechanical integrity demonstration within 30 days after completion (unless the demonstration is witnessed by an EPA inspector, in which case the inspector will prepare the report).

2. If the permittee or the RA finds that the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity as defined by 40 CFR 146.8 and 147.3010 becomes evident during operation, the operation shall be halted immediately and shall not be resumed until the RA gives approval to recommence injection.
3. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate engineering capability available, adequate funding, operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

F. Permit Actions

1. This permit may be modified, revoked and reissued, or terminated for the following causes (see 40 CFR 144.39 and 144.40):
 - a) There are substantial changes to the facility or activity which occurred after permit issuance that justify revised or additional permit conditions.
 - b) The RA has received information (e.g., from monitoring reports, inspections) which warrants a modified permit.
 - c) The regulations or standards on which the permit was based have changed.
 - d) The RA has received notice of a proposed permit transfer.
 - e) An interested person requests in writing that a permit be modified and the RA determines that cause for modification exists.

- f) Cause exists for termination under 40 CFR 144.40, but the RA determines that permit modification is appropriate.

The modification described in 40 CFR 144.39 must be followed to accomplish the modifications described in item "a" through "f" of this section.

- 2. Minor modifications do not require that the procedure listed in 40 CFR 144.39 be followed. Minor modifications consist of:
 - a) Correcting typographical errors;
 - b) Requiring more frequent monitoring or reporting;
 - c) Changing ownership or operational control (see 40 CFR 144.38, Permit Transfers); or
 - d) Changing quantities or types of injected fluids, provided:
 - (i) The facility can operate within conditions of the permit;
 - (ii) The facility classification would not change.

The filing of a request by the permittee for a permit modification, or a notification of planned change or anticipated noncompliance, does not stay any permit condition.

G. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

H. Duty to Provide Information

The permittee shall furnish to the RA within a reasonable time any information which the RA requests to determine whether cause exists for modifying, revoking and reissuing or terminating this permit. The permittee shall also furnish to the RA, upon request, copies of records required to be kept by this permit.

I. Inspection and Entry

The permittee shall allow EPA representatives upon the presentation of credentials and other documentation to:

- 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records required by this permit are kept;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

J. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the injection activity. The operator shall monitor the injection pressure (psi) and rate (bbl/day) once a month. Reporting of monitoring results shall be in accordance with procedures and at intervals prescribed in condition II.L.4 of this permit.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample measurement, report or application. This period may be extended by request of the RA at any time.

The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of any plugging and abandonment procedures specified under 40 CFR 144.28(c) and 144.28(j)(2). The RA may require the owner or operator to deliver the records to the RA at the conclusion of the retention period.

3. Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individuals who performed the sampling or measurements;
 - c) The date(s) analyses were performed;
 - d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used including quality assurance techniques employed to insure the generation of reliable data; and

f) The results of such analyses.

4. The owner/operator shall retain all monitoring records for three (3) years, unless an enforcement action is pending, and then until three (3) years after the enforcement action has been resolved.

K. Signatory Requirements

All applications, reports, or information submitted to the RA shall be signed and certified (see 40 CFR 144.32) by the injection facility owner/operator or his duly authorized representative.

L. Reporting Requirements

1. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date on which injection commenced.
2. Planned changes - The permittee shall give advance notice to the RA of any planned changes which may result in noncompliance.
3. Transfers - This permit is not transferable to any person except after notice to the RA.
 - a) Permits may be transferred to another permittee:
 - (1) If the current permittee notifies the RA by certified mail at least 10 days before the proposed transfer date; and
 - (2) If the notice includes a written agreement between the existing and new permittees containing:
 - (i) A specific date for transfer of permit responsibility, coverage and liability; and
 - (ii) Assurance that the new permittee has a surety bond on file with BIA; and
 - (3) If the RA does not respond with a notice to the existing permittee that the permit will be modified.
 - b) If the conditions in paragraph (a) of this section are met, the transfer is effective on the date specified in paragraph (a)(2)(i).

4. Monitoring reports - Monitoring results shall be reported annually on the EPA Annual Disposal/Injection Well Monitoring Report form or an identical format. The report shall specify the types of methods used to generate the monitoring data.
5. Compliance schedules - Reports of compliance or noncompliance with, or any progress report on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each interim date and final date of compliance.
6. Twenty-four hour reporting - The permittee shall report to EPA Region 6 UIC office any noncompliance which may endanger an underground source of drinking water. The report shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
7. The following shall be reported within 30 days of occurrence:
 - a) Any monitoring reports or other information required under paragraph 6 that is not available within five (5) days.
 - b) Any malfunction of the injection system including any mechanical failure or downhole problem involving well integrity, well workovers, or any noncompliance (40 CFR 144.27).
8. Other noncompliance - The permittee shall report all instances of noncompliance not reported under paragraphs 6 and 7 of this section at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph L.6 of this section.
9. The permittee shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated.
10. Other information. When the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the RA, the permittee shall promptly submit such facts or information.

M. Additional Conditions

1. The operator of a well shall not allow the movement of fluid containing any contaminant into underground sources of drinking water if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may otherwise adversely affect human health.
2. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated. The well must be plugged within two years after termination of injection. The RA may extend the time to plug, but only if no fluid movement into a USDW will occur, and the operator has presented a viable plan for utilizing the well within a reasonable time.
3. The permittee shall notify the EPA Region 6 UIC office by certified mail at least forty-five (45) days prior to the commencement of plugging operations. The notice must include that information prescribed at 40 CFR 146.10.
4. Plugging and Abandonment - The well shall be plugged in a manner which will not allow movement of fluids either into or between underground sources of drinking water. Placement of cement plugs shall be accomplished by one of the methods described in 40 CFR 146.10 or some other method approved by the RA.

The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the RA, prior to the placement of the cement plug(s).

N. Financial Responsibility

The permittee must demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection well.

O. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

P. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provisions to other circumstances, and the remainder of this permit, shall not be affected thereby.

Q. Explanation of Terms

Terms used in this permit are defined as follows:

"RA" - Regional Administrator, Region 6 EPA

"UIC" - Underground Injection Control

"SDWA"/"the Act" - The Safe Drinking Water Act

"EPA Region 6"- U.S. Environmental Protection Agency (6W-SE)
1445 Ross Avenue
Dallas, Texas 75202-2733
Telephone - (214) 655-7165

"Well Stimulation" - means several processes used to clean the wellbore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

Other references to program - specific terms, acronyms and abbreviations shall mean those terms as defined by the UIC program regulations, 40 CFR 124, 144, 145, 146, 147 and the Safe Drinking Water Act.

Underground Injection Control Program
Draft Permit
Response to Comments

This is our response to comments received on the **subject draft** Underground Injection Control (UIC) permit in accordance with **UIC program** regulations [40 CFR 124.17(b)].

Permit No.: 065M8102P0002
Permittee Name: Grand Resources, Incorporated
Well Location: SW Quarter, Sec. 14, Twp. 22N, Rnge. 18W
Draft Permit Public Comment Period: June 28, 1989, through July 26, 1989
Prepared by: Richard C. Peckham

Issue

Comments were received that the 1000 psi maximum injection pressure was excessive and suggested that a 0.2 psi per foot gradient be used to determine the allowable pressure until a step-rate test has been run which might justify a higher injection pressure.

Response

EPA considered the comments and agree that injection pressures higher than that calculated by a 0.2 psi per foot gradient should be justified by a step-rate test. Therefore, special permit condition 1.B.2. has been changed to require a step-rate test prior to EPA establishing a maximum injection rate.

Appeal of Final Permit Decision

The final permit may be appealed by any person who filed comments on the draft permit. Persons who did not comment on the draft permit may appeal only those changes made to the final permit subsequent to draft permit issuance. Appeals must be submitted in writing to the Regional Administrator within 30 days of the date the Water Management Division Director signs the permit. Such requests must include that information required in 40 CFR (124.19(a)).

RECEIVED

AUG 11 1989

OIL CONSERVATION DIV.
SANTA FE

AUG 08 1989

Certified Mail #P 716 891 680 - Return Receipt Requested

Mr. Marvin J. Rosnowitz, President
Grand Resources, Incorporated
2250 East 70th Street, Suite 400
Tulsa, Oklahoma 74136

Re: Underground Injection Control Permit
Permit No. 055WPN2P9004 - San Juan County, New Mexico

Dear Mr. Rosnowitz:

Enclosed is a copy of the final permit referenced above and our response to comments received on the draft permit.

Please read the entire permit so that you can become familiar with the effective date and the conditions of the permit. In response to comments received permit condition 1.B.2. has been modified. Please pay special attention to permit condition number 1.B.1. which requires that you receive an "Authorization to Inject" from this office prior to operating this well, except to conduct the required Step-rate test. "Authorization to Inject" will not be granted until the operator has satisfactorily demonstrated compliance with special permit conditions 1.A.1., 1.A.2., 1.A.3., 1.B.1., and 1.B.2. in accordance with Underground Injection Control regulations 40 CFR 124.15(b). The effective date of this permit is 30 days after the date of this letter. The Regional Administrator will review each issued permit at least once every five (5) years to determine whether it should be modified or terminated.

If you have any questions, please call Ms. Betty West in Dallas at (214) 655-7164.

Sincerely yours,

/s/Myron O. Knudson

Myron O. Knudson, P.E.
Director
Water Management Division (616)

Enclosures

cc: With enclosures:
Navajo Nation (Tribe)
BIA, Gallup, New Mexico
BIA, Farmington, New Mexico
Oil & Conservation Division, Santa Fe, New Mexico

ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL (UIC) PERMIT

Permit No. 06SWMN2P9004
Well No. 3

AUTHORIZATION TO CONVERT A WELL TO
AN INJECTION WELL UNDER THE UIC PROGRAM
MAYAGUAT TATION

In compliance with the provisions of the Safe Drinking Water Act, (hereafter referred to as "SDWA" or "SDWA") as amended (42 U.S.C. (2001 et seq.)).

Grand Resources, Incorporated
2210 East 73rd Street, Suite 400
Tulsa, Oklahoma 74136

is authorized to convert a well to a Class II enhanced oil recovery injection well in Sandoval County, New Mexico at:

660 feet from the South Line and 1990 feet from the West Line, SW Quarter, Section 24, Township 32N, Range 19W into the injection interval at a depth of 1110 feet or 117 feet below land surface in the Gallup Sand in accordance with the construction and operation requirements, injection pressure limits, reporting and monitoring requirements, and other conditions set forth in Parts I and II of this permit and the New Mexico Indian Lands Class II Underground Injection Control Program and Regulations.

Authorization to inject fluids into the well described in this permit, except to conduct the required slug-rate test, shall be separately granted. Such authorization may be verbally granted by the Chief, UIC Permits and Enforcement Section when the operator has satisfactorily demonstrated compliance with special permit conditions I.A.1., I.A.2., I.A.3., I.R.1., and I.B.2. Any verbal authorization to inject will be followed by a written "Authorization to Inject" from the Director, Water Management Division (WMD).

AUG 08 1989

This permit shall become effective on _____ for conversion and for injection on the date specified in the "Authorization to Inject." For authorization to inject, this permit shall remain in effect until the well is plugged and abandoned or the permit is terminated.

AUG 08 1989

Signed this _____ day of _____ 19 _____.

/s/Myron O. Knudson

Myron O. Knudson, P.E.
Director, Water Management Division
Environmental Protection Agency
Region 6

Part I. SPECIAL PERMIT CONDITIONS

A. Construction Requirements

1. Surface casing shall be set at 33 feet below land surface and cemented back to the surface. The long string casing shall be set at 1103 feet below land surface and cemented with 45 sacks of cement.
2. The well shall be equipped with standard female fittings with cut-off valves connected to the tubing and the tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an LPA representative by attaching a gauge having a standard male fitting.
3. Tubing and packer must be installed. The packer must be run on the tubing and set inside the casing between 1035 and 1105 feet of depth below the land surface.

B. Operating Requirements

1. Authorization to inject will not be granted until the permittee shows to the satisfaction of the MCO pursuant to 40 CFR 145.8 that the well has mechanical integrity. The well's mechanical integrity must be demonstrated prior to the start of injection and at least every five years thereafter. The permittee must notify the EPA Region 6 UIC office at least 14 days prior to mechanical integrity testing so that an LPA representative can witness the test.
2. The maximum injection pressure at the wellhead shall be determined by the results of a step-rate test. The permittee shall conduct a step-rate test on this well and submit the data to the EPA Region 6 UIC office. Based on the results of the test, LPA will establish the maximum allowable injection pressure and notify the operator by letter. That letter shall become a part of this permit.
3. The permittee is authorized to inject salt water for enhanced oil recovery.
4. Injection volume shall be limited to 15,000 barrels per month.

C. Plugging and Abandonment Requirements

1. After a cessation of operations of two years, the operator shall plug and abandon the well in accordance with the following procedures:
 - (a) Set a cast iron bridge plug (CIBP) at 1360 feet below the land surface and top a minimum of 10 feet of cement on the CIBP;
 - (b) Shoot off 4-1/2 inch casing at free point;
 - (c) Circulate cement from 100 feet below the land surface to the surface with intervals between the cement plugs filled with drilling mud with a density of at least 9 pounds per gallon.
2. The licensee shall notify the BE at least 40 days before plugging and abandonment. Any modifications to the above procedures shall be reflected in this notice.
3. Within 40 days after plugging, a plugging report must be submitted. The report must include:
 - (a) A statement that plugging was complete in accordance with special permit condition 1.C.1.; or
 - (b) If actual plugging differed from requirements of special permit condition 1.C.1., specify the different procedures used.

Part II. CONDITIONS APPLICABLE TO ALL PERMITS

A. Confidentiality

Any information except the permittee's name and address and information concerning the existence, absence or level of contaminants in drinking water may be claimed as confidential. Any claim of confidentiality must be asserted at the time of submission. If no claim is made, EPA may make the information available to the public without further notice.

B. Duty to Comply

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification.

Compliance with the terms of this grant does not constitute a defense to any action brought under Section 1431 of the Safe Drinking Water Act (SDWA) or any other law for any imminent or substantial endangerment to human health or the environment or for any breach of any other applicable legal duty.

2. The permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in a temporary emergency permit under 40 CFR 144.34.

C. Duty to Halt or Reduce Activity

It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Migrate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

E. Proper Operation and Maintenance

1. All injection wells must have and maintain mechanical integrity consistent with 40 CFR 146.8(b)(1) and 147.3010. Mechanical integrity must be demonstrated initially and also any time the tubing is removed from the well, the packer is reset, or a loss of mechanical integrity becomes evident during operation.

Further, the Regional Administrator (RA) may by written notice require the permittee to demonstrate mechanical integrity at any time. The permittee shall notify the EPA Region 6 UIC office of his intent to prove mechanical integrity at least 14 days prior to such demonstration. The permittee shall report the results of the mechanical integrity demonstration within 30 days after completion (unless the demonstration is witnessed by an EPA inspector, in which case the inspector will prepare the report).

2. If the permittee or the RA finds that the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity as defined by 40 CFR 146.8 and 147.3010 becomes evident during operation, the operation shall be halted immediately and shall not be resumed until the RA gives approval to recommence injection.
3. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate engineering capability available, adequate funding, operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

F. Permit Actions

1. This permit may be modified, revoked and reissued, or terminated for the following causes (see 40 CFR 144.39 and 144.40):
 - a) There are substantial changes to the facility or activity which occurred after permit issuance that justify revised or additional permit conditions.
 - b) The RA has received information (e.g., from monitoring reports, inspections) which warrants a modified permit.
 - c) The regulations or standards on which the permit was based have changed.
 - d) The RA has received notice of a proposed permit transfer.
 - e) An interested person requests in writing that a permit be modified and the RA determines that cause for modification exists.

- f) Cause exists for termination under 40 CFR 144.40, but the RA determines that permit modification is appropriate.

The modification described in 40 CFR 144.39 must be followed to accomplish the modifications described in item "a" through "f" of this section.

- 2. Minor modifications do not require that the procedure listed in 40 CFR 144.39 be followed. Minor modifications consist of:
 - a) Correcting typographical errors;
 - b) Requiring more frequent monitoring or reporting;
 - c) Changing ownership or operational control (see 40 CFR 144.38, Permit Transfers); or
 - d) Changing quantities or types of injected fluids, provided:
 - (i) The facility can operate within conditions of the permit;
 - (ii) The facility classification would not change.

The filing of a request by the permittee for a permit modification, or a notification of planned change or anticipated noncompliance, does not stay any permit condition.

G. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

H. Duty to Provide Information

The permittee shall furnish to the RA within a reasonable time any information which the RA requests to determine whether cause exists for modifying, revoking and reissuing or terminating this permit. The permittee shall also furnish to the RA, upon request, copies of records required to be kept by this permit.

I. Inspection and Entry

The permittee shall allow EPA representatives upon the presentation of credentials and other documentation to:

- 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records required by this permit are kept;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

J. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the injection activity. The operator shall monitor the injection pressure (psi) and rate (bbl/day) once a month. Reporting of monitoring results shall be in accordance with procedures and at intervals prescribed in condition II.L.4 of this permit.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample measurement, report or application. This period may be extended by request of the RA at any time.

The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of any plugging and abandonment procedures specified under 40 CFR 144.28(c) and 144.28(j)(2). The RA may require the owner or operator to deliver the records to the RA at the conclusion of the retention period.

3. Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individuals who performed the sampling or measurements;
 - c) The date(s) analyses were performed;
 - d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used including quality assurance techniques employed to insure the generation of reliable data; and

f) The results of such analyses.

4. The owner/operator shall retain all monitoring records for three (3) years, unless an enforcement action is pending, and then until three (3) years after the enforcement action has been resolved.

K. Signatory Requirements

All applications, reports, or information submitted to the RA shall be signed and certified (see 40 CFR 144.32) by the injection facility owner/operator or his duly authorized representative.

L. Reporting Requirements

1. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date on which injection commenced.
2. Planned changes - The permittee shall give advance notice to the RA of any planned changes which may result in noncompliance.
3. Transfers - This permit is not transferable to any person except after notice to the RA.
 - a) Permits may be transferred to another permittee:
 - (1) If the current permittee notifies the RA by certified mail at least 10 days before the proposed transfer date; and
 - (2) If the notice includes a written agreement between the existing and new permittees containing:
 - (i) A specific date for transfer of permit responsibility, coverage and liability; and
 - (ii) Assurance that the new permittee has a surety bond on file with BIA; and
 - (3) If the RA does not respond with a notice to the existing permittee that the permit will be modified.
 - b) If the conditions in paragraph (a) of this section are met, the transfer is effective on the date specified in paragraph (a)(2)(i).

4. Monitoring reports - Monitoring results shall be reported annually on the EPA Annual Disposal/Injection Well Monitoring Report form or an identical format. The report shall specify the types of methods used to generate the monitoring data.
5. Compliance schedules - Reports of compliance or noncompliance with, or any progress report on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each interim date and final date of compliance.
6. Twenty-four hour reporting - The permittee shall report to EPA Region 6 UIC office any noncompliance which may endanger an underground source of drinking water. The report shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
7. The following shall be reported within 30 days of occurrence:
 - a) Any monitoring reports or other information required under paragraph 6 that is not available within five (5) days.
 - b) Any malfunction of the injection system including any mechanical failure or downhole problem involving well integrity, well workovers, or any noncompliance (40 CFR 144.27).
8. Other noncompliance - The permittee shall report all instances of noncompliance not reported under paragraphs 6 and 7 of this section at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph L.6 of this section.
9. The permittee shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated.
10. Other information. When the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the RA, the permittee shall promptly submit such facts or information.

M. Additional Conditions

1. The operator of a well shall not allow the movement of fluid containing any contaminant into underground sources of drinking water if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may otherwise adversely affect human health.
2. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated. The well must be plugged within two years after termination of injection. The RA may extend the time to plug, but only if no fluid movement into a USDW will occur, and the operator has presented a viable plan for utilizing the well within a reasonable time.
3. The permittee shall notify the EPA Region 6 UIC office by certified mail at least forty-five (45) days prior to the commencement of plugging operations. The notice must include that information prescribed at 40 CFR 146.10.
4. Plugging and Abandonment - The well shall be plugged in a manner which will not allow movement of fluids either into or between underground sources of drinking water. Placement of cement plugs shall be accomplished by one of the methods described in 40 CFR 146.10 or some other method approved by the RA.

The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the RA, prior to the placement of the cement plug(s).

N. Financial Responsibility

The permittee must demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection well.

O. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

P. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provisions to other circumstances, and the remainder of this permit, shall not be affected thereby.

Q. Explanation of Terms

Terms used in this permit are defined as follows:

"RA" - Regional Administrator, Region 6 EPA

"UIC" - Underground Injection Control

"SDWA"/"the Act" - The Safe Drinking Water Act

"EPA Region 6 - U.S. Environmental Protection Agency (6W-SE)
1445 Ross Avenue
Dallas, Texas 75202-2733
Telephone - (214) 655-7165

"Well Stimulation" - means several processes used to clean the wellbore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

Other references to program - specific terms, acronyms and abbreviations shall mean those terms as defined by the UIC program regulations, 40 CFR 124, 144, 145, 146, 147 and the Safe Drinking Water Act.

Underground Injection Control Program
Draft Permit
Response to Comments

This is our response to comments received on the subject draft Underground Injection Control (UIC) permit in accordance with UIC program regulations [40 CFR §124.17(b), 1].

Permit No.: 06SNMN2P9004
Permittee Name: Grand Resources, Incorporated
Well Location: SW Quarter, Sec. 24, Twp. 32N, Rnge. 18W
Draft Permit Public Comment Period: June 28, 1989, through July 26, 1989
Prepared by: Richard C. Peckham

Issue

Comments were received that the 1000 psi maximum injection pressure was excessive and suggested that a 0.2 psi per foot gradient be used to determine the allowable pressure until a step-rate test has been run which might justify a higher injection pressure.

Response

EPA considered the comments and agree that injection pressures higher than that calculated by a 0.2 psi per foot gradient should be justified by a step-rate test. Therefore, special permit condition I.B.2. has been changed to require a step-rate test prior to EPA establishing a maximum injection rate.

Appeal of Final Permit Decision

The final permit may be appealed by any person who filed comments on the draft permit. Persons who did not comment on the draft permit may appeal only those changes made to the final permit subsequent to draft permit issuance. Appeals must be submitted in writing to the Regional Administrator within 30 days of the date the Water Management Division Director signs the permit. Such requests must include that information required in 40 CFR §124.19(a).

AUG 28 1969

Certified Mail # 789 777 - Return Receipt Requested

Mr. Marvin J. Smead, President
Grand Resources, Incorporated
7230 East First Street, Suite 403
Tulsa, Oklahoma 74114

Re: Underground Injection Control Permit
Permit No. 1010212PYN01 - San Juan County, New Mexico

Dear Mr. Smead:

Enclosed is a copy of the final permit referenced above and our response to comments received on the draft permit.

Please read the entire permit so that you can become familiar with the effective date and the conditions of the permit. In response to comments received, permit condition 1.D.1. has been modified. Please pay special attention to permit condition number 1.C.1. which requires that you receive an "Authorization to Inject" prior to operating this well, except to conduct the required step-rate test. "Authorization to Inject" will not be granted until the operator has satisfactorily demonstrated compliance with special permit conditions 1.A.1., 1.A.2., 1.A.3., 1.B.1., and 1.B.2. In accordance with underground injection control regulations 40 CFR 154.10(b), the effective date of this permit is 30 days after the date of this letter. The Regional Administrator will review each issued permit at least once every five (5) years to determine whether it should be modified or terminated.

If you have any questions, please call Mr. Betty West in Dallas at (214) 665-7134.

Sincerely yours,

/s/Myron O. Knudson

Myron O. Knudson, P.E.,
Director
Water Management Division, EPA

Enclosures

cc: with acknowledgment
Navajo Nation, Tribe,
BIA, Gallup, New Mexico
RMA, Albuquerque, New Mexico
New Mexico Oil Conservation Division, Santa Fe, New Mexico

ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL (UIC) PERMIT

Permit No. 06SNWNP9003
Well No. 11

AUTHORIZATION TO CONVERT A WELL TO
AN INJECTION WELL UNDER THE UIC PROGRAM
NAVAJO NATION

In compliance with the provisions of the Safe Drinking Water Act, (hereafter referred to as "the Act" or "SDWA") as amended (42 U.S.C. 300f et seq.),

Grand Resources, Incorporated
2050 East 73rd Street, Suite 400
Tulsa, Oklahoma 74136

is authorized to convert a well to a Class II enhanced oil recovery injection well in San Juan County, New Mexico at:

350 feet from the North line and 1050 feet from the East line, NE Quarter, Section 20, Township 32N, Range 18W into the injection interval at a depth of 1081 feet to 1301 feet below land surface in the Gallup Sand in accordance with the construction and operation requirements, injection pressure limits, reporting and monitoring requirements, and other conditions set forth in Parts I and II of this permit and the New Mexico Indian Lands Class II Underground Injection Control Program and Regulations.

Authorization to inject fluids into the well described in this permit, except to conduct the required step-rate test, shall be separately granted. Such authorization may be verbally granted by the Chief, UIC Permits and Enforcement Section when the operator has satisfactorily demonstrated compliance with special permit conditions I.A.1., I.A.2., I.A.3., I.B.1., and I.B.2. Any verbal authorization to inject will be followed by a written "Authorization to Inject" from the Director, Water Management Division (WMD).

AUG 08 1989

This permit shall become effective on _____ for conversion and for injection on the date specified in the "Authorization to Inject." Upon authorization to inject, this permit shall remain in effect until the well is plugged and abandoned or the permit is terminated.

Signed this _____ day of _____, AUG 08 1989, 19 _____.

/s/Myron O. Knudson

Myron O. Knudson, P.E.
Director, Water Management Division
Environmental Protection Agency
Region 6

Part 1. SPECIAL PERMIT CONDITIONS

A. Construction Requirements

1. Surface casing shall be set at 28 feet below land surface and cemented back to the surface. The long string casing shall be set at 1437 feet below land surface and cemented with 40 sacks of cement.
2. The well shall be equipped with standard female fittings with cut-off valves connected to the tubing and the tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an EPA representative by attaching a gauge having a standard male fitting.
3. Taper and packer must be installed. The packer must be run on the tubing and set inside the casing between 1281 and 1376 feet of depth below the land surface.

B. Operating Requirements

1. Authorization to inject will not be granted until the permittee agrees to the satisfaction of the MISO pursuant to 40 CFR 146.8 that the well has mechanical integrity. The well's mechanical integrity must be demonstrated prior to the start of injection and at least every five years thereafter. The permittee must notify the EPA Region 6 OIC office at least 14 days prior to mechanical integrity testing so that an EPA representative can witness the test.
2. The maximum injection pressure at the wellhead shall be determined by the results of a step-rate test. The permittee shall conduct a step-rate test on this well and submit the data to the EPA Region 6 OIC office. Based on the results of the test EPA will establish the maximum allowable injection pressure and notify the operator by letter. That letter shall become a part of this permit.
3. The permittee is authorized to inject salt water for enhanced oil recovery.
4. Injection volume shall be limited to 15,000 barrels per month.

C. Plugging and Abandonment Requirements

1. After a cessation of operations of two years, the operator shall plug and abandon the well in accordance with the following procedures:
 - (a) Set a cast iron bridge plug (CIBP) at 1550 feet below the land surface and spot a minimum of 10 feet of cement on the CIBP;
 - (b) Shoot off 4-1/2 inch casing at free point;
 - (c) Circulate cement from 100 feet below the land surface to the surface with interval between the cement plugs filled with drilling mud with a density of at least 9 pounds per gallon.
2. Permittee shall notify the RA at least 45 days before plugging and abandonment. Any modifications to the above procedures shall be included in this notice.
3. Within 60 days after plugging, a plugging report must be submitted. The report must include:
 - (a) A statement that plugging was complete in accordance with special permit condition I.C.1.; or
 - (b) If actual plugging differed from requirements of special permit condition I.C.1., specify the different procedures used.

Part II. CONDITIONS APPLICABLE TO ALL PERMITS

A. Confidentiality

Any information except the permittee's name and address and information concerning the existence, absence or level of contaminants in drinking water may be claimed as confidential. Any claim of confidentiality must be asserted at the time of submission. If no claim is made, EPA may make the information available to the public without further notice.

B. Duty to Comply

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification.

Compliance with the terms of this grant does not constitute a defense to any action brought under Section 1431 of the Safe Drinking Water Act (SDWA) or any other law for any imminent or substantial endangerment to human health or the environment or for any breach of any other applicable legal duty.

2. The permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in a temporary emergency permit under 40 CFR 144.34.

C. Duty to Halt or Reduce Activity

It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Migrate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

E. Proper Operation and Maintenance

1. All injection wells must have and maintain mechanical integrity consistent with 40 CFR 146.8(b)(1) and 147.3010. Mechanical integrity must be demonstrated initially and also any time the tubing is removed from the well, the packer is reset, or a loss of mechanical integrity becomes evident during operation.

Further, the Regional Administrator (RA) may by written notice require the permittee to demonstrate mechanical integrity at any time. The permittee shall notify the EPA Region 6 UIC office of his intent to prove mechanical integrity at least 14 days prior to such demonstration. The permittee shall report the results of the mechanical integrity demonstration within 30 days after completion (unless the demonstration is witnessed by an EPA inspector, in which case the inspector will prepare the report).

2. If the permittee or the RA finds that the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity as defined by 40 CFR 146.8 and 147.3010 becomes evident during operation, the operation shall be halted immediately and shall not be resumed until the RA gives approval to recommence injection.
3. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate engineering capability available, adequate funding, operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

F. Permit Actions

1. This permit may be modified, revoked and reissued, or terminated for the following causes (see 40 CFR 144.39 and 144.40):
 - a) There are substantial changes to the facility or activity which occurred after permit issuance that justify revised or additional permit conditions.
 - b) The RA has received information (e.g., from monitoring reports, inspections) which warrants a modified permit.
 - c) The regulations or standards on which the permit was based have changed.
 - d) The RA has received notice of a proposed permit transfer.
 - e) An interested person requests in writing that a permit be modified and the RA determines that cause for modification exists.

- f) Cause exists for termination under 40 CFR 144.40, but the RA determines that permit modification is appropriate.

The modification described in 40 CFR 144.39 must be followed to accomplish the modifications described in item "a" through "f" of this section.

- 2. Minor modifications do not require that the procedure listed in 40 CFR 144.39 be followed. Minor modifications consist of:
 - a) Correcting typographical errors;
 - b) Requiring more frequent monitoring or reporting;
 - c) Changing ownership or operational control (see 40 CFR 144.38, Permit Transfers); or
 - d) Changing quantities or types of injected fluids, provided:
 - (i) The facility can operate within conditions of the permit;
 - (ii) The facility classification would not change.

The filing of a request by the permittee for a permit modification, or a notification of planned change or anticipated noncompliance, does not stay any permit condition.

G. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

H. Duty to Provide Information

The permittee shall furnish to the RA within a reasonable time any information which the RA requests to determine whether cause exists for modifying, revoking and reissuing or terminating this permit. The permittee shall also furnish to the RA, upon request, copies of records required to be kept by this permit.

I. Inspection and Entry

The permittee shall allow EPA representatives upon the presentation of credentials and other documentation to:

- 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records required by this permit are kept;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

J. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the injection activity. The operator shall monitor the injection pressure (psi) and rate (bbl/day) once a month. Reporting of monitoring results shall be in accordance with procedures and at intervals prescribed in condition II.L.4 of this permit.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample measurement, report or application. This period may be extended by request of the RA at any time.

The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of any plugging and abandonment procedures specified under 40 CFR 144.28(c) and 144.28(j)(2). The RA may require the owner or operator to deliver the records to the RA at the conclusion of the retention period.

3. Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individuals who performed the sampling or measurements;
 - c) The date(s) analyses were performed;
 - d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used including quality assurance techniques employed to insure the generation of reliable data; and

f) The results of such analyses.

4. The owner/operator shall retain all monitoring records for three (3) years, unless an enforcement action is pending, and then until three (3) years after the enforcement action has been resolved.

K. Signatory Requirements

All applications, reports, or information submitted to the RA shall be signed and certified (see 40 CFR 144.32) by the injection facility owner/operator or his duly authorized representative.

L. Reporting Requirements

1. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date on which injection commenced.
2. Planned changes - The permittee shall give advance notice to the RA of any planned changes which may result in noncompliance.
3. Transfers - This permit is not transferable to any person except after notice to the RA.
 - a) Permits may be transferred to another permittee:
 - (1) If the current permittee notifies the RA by certified mail at least 10 days before the proposed transfer date; and
 - (2) If the notice includes a written agreement between the existing and new permittees containing:
 - (i) A specific date for transfer of permit responsibility, coverage and liability; and
 - (ii) Assurance that the new permittee has a surety bond on file with BIA; and
 - (3) If the RA does not respond with a notice to the existing permittee that the permit will be modified.
 - b) If the conditions in paragraph (a) of this section are met, the transfer is effective on the date specified in paragraph (a)(2)(i).

4. Monitoring reports - Monitoring results shall be reported annually on the EPA Annual Disposal/Injection Well Monitoring Report form or an identical format. The report shall specify the types of methods used to generate the monitoring data.
5. Compliance schedules - Reports of compliance or noncompliance with, or any progress report on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each interim date and final date of compliance.
6. Twenty-four hour reporting - The permittee shall report to EPA Region 6 UIC office any noncompliance which may endanger an underground source of drinking water. The report shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
7. The following shall be reported within 30 days of occurrence:
 - a) Any monitoring reports or other information required under paragraph 6 that is not available within five (5) days.
 - b) Any malfunction of the injection system including any mechanical failure or downhole problem involving well integrity, well workovers, or any noncompliance (40 CFR 144.27).
8. Other noncompliance - The permittee shall report all instances of noncompliance not reported under paragraphs 6 and 7 of this section at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph L.6 of this section.
9. The permittee shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated.
10. Other information. When the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the RA, the permittee shall promptly submit such facts or information.

M. Additional Conditions

1. The operator of a well shall not allow the movement of fluid containing any contaminant into underground sources of drinking water if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may otherwise adversely affect human health.
2. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated. The well must be plugged within two years after termination of injection. The RA may extend the time to plug, but only if no fluid movement into a USDW will occur, and the operator has presented a viable plan for utilizing the well within a reasonable time.
3. The permittee shall notify the EPA Region 6 UIC office by certified mail at least forty-five (45) days prior to the commencement of plugging operations. The notice must include that information prescribed at 40 CFR 146.10.
4. Plugging and Abandonment - The well shall be plugged in a manner which will not allow movement of fluids either into or between underground sources of drinking water. Placement of cement plugs shall be accomplished by one of the methods described in 40 CFR 146.10 or some other method approved by the RA.

The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the RA, prior to the placement of the cement plug(s).

N. Financial Responsibility

The permittee must demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection well.

O. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

P. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provisions to other circumstances, and the remainder of this permit, shall not be affected thereby.

Q. Explanation of Terms

Terms used in this permit are defined as follows:

"RA" - Regional Administrator, Region 6 EPA

"UIC" - Underground Injection Control

"SDWA"/"the Act" - The Safe Drinking Water Act

"EPA Region 6" - U.S. Environmental Protection Agency (6W-SE)
1445 Ross Avenue
Dallas, Texas 75202-2733
Telephone - (214) 655-7165

"Well Stimulation" - means several processes used to clean the wellbore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

Other references to program - specific terms, acronyms and abbreviations shall mean those terms as defined by the UIC program regulations, 40 CFR 124, 144, 145, 146, 147 and the Safe Drinking Water Act.

Underground Injection Control Program
Draft Permit
Response to Comments

This is our response to comments received on the subject draft Underground Injection Control (UIC) permit in accordance with UIC program regulations (40 CFR 124.19(a)).

Permit No.: 0655NMW00003
Permittee Name: Grand Resources, Incorporated
Well Location: NE Quarter Sec. 23, Twp. 32N, Rng. 18W
Draft Permit Action Comment Period: June 28, 1989 through July 26, 1989
Prepared by: Richard C. Peckham

Issue

Comments were received that the 1000 psi maximum injection pressure was excessive and suggested that a 0.2 psi per foot gradient be used to determine the allowable pressure until a step-rate test has been run which might justify a higher injection pressure.

Response

EPA considered the comments and agreed that injection pressures higher than those calculated by a 0.2 psi per foot gradient should be justified by a step-rate test. Therefore, special permit condition 1.B.2. has been changed to require a step-rate test prior to EPA establishing a maximum injection rate.

Appeal of Final Permit Decision

The final permit may be appealed by any person who filed comments on the draft permit. Persons who did not comment on the draft permit may appeal only those changes made to the final permit subsequent to draft permit issuance. Appeals must be submitted in writing to the Regional Administrator within 30 days of the date the State Management Division Director signs the permit. Such requests must include that information required in 40 CFR 124.19(a).

JUN 21 1983

REPLY TO: 6W-S6

Certified Mail #P 105 323 693 - Return Receipt Requested

Mr. Harvin D. Robinowitz, President
Grand Resources, Incorporated
2250 East 73rd Street, Suite 400
Tulsa, Oklahoma 74136

Re: Draft UIC Permit and Statement of Basis
Permit No. 06SNMN2P9004 - San Juan County, New Mexico

Dear Mr. Robinowitz:

Enclosed is the public notice, statement of basis and the permit which has been drafted by the Environmental Protection Agency (EPA) under the authority of the Safe Drinking Water Act. Please submit any comments you may have in writing to the office at the address shown in the notice. The notice will be published in the Farmington Times.

Permits are also required by the Bureau of Land Management (BLM) and the New Mexico Oil Conservation District. If you have not yet obtained these permits, please contact these agencies at the addresses given below at your earliest convenience.

Area Manager
Farmington Resource Area Office
Bureau of Land Management
Caller Service 4140
Farmington, New Mexico 87499
Telephone: (505) 325-4572

New Mexico Oil Conservation Division
New Mexico Energy and Minerals Department
Post Office Box 2002
Santa Fe, New Mexico 87501
Telephone: (505) 317-5802

Authorization to complete the work described in your permit application must be received by both the EPA and BLM prior to commencement of work.

If you have any questions, please have your staff contact Ms. Betty West of my staff at (214) 600-7100.

Sincerely yours

Byron G. Swanson, P.E.
Director
Water Management Division (31)

Dallas, Texas

City of Dallas
5100 Collingwood, New Market
2100 North Loop, New Market
10000 Camp Street, Arlington, Central
2000 North Loop, Dallas

ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL (UIC) PERMIT

Permit No. 06SNMN2P9004
Well No. 3

AUTHORIZATION TO CONVERT A WELL TO
AN INJECTION WELL UNDER THE UIC PROGRAM
NAVAJO NATION

In compliance with the provisions of the Safe Drinking Water Act, (hereafter referred to as "the Act" or "SDWA") as amended (42 U.S.C. §300f et seq.),

Grand Resources, Incorporated
2250 East 73rd Street, Suite 400
Tulsa, Oklahoma 74136

is authorized to convert a well to a Class II enhanced oil recovery injection well in San Juan County, New Mexico at:

660 feet from the South line and 1980 feet from the West line, SW Quarter, Section 24, Township 32N, Range 18W into the injection interval at a depth of 1110 feet to 1126 feet below land surface in the Gallup Sand in accordance with the construction and operation requirements, injection pressure limits, reporting and monitoring requirements, and other conditions set forth in Parts I and II of this permit and the New Mexico Indian Lands Class II Underground Injection Control Program and Regulations.

Authorization to inject fluids into the well described in this permit shall be separately granted. Such authorization may be verbally granted by the Chief, UIC Permits and Enforcement Section when the operator has satisfactorily demonstrated compliance with special permit conditions I.A.1., I.A.2., I.A.3., and I.B.1. Any verbal authorization to inject will be followed by a written "Authorization to Inject" from the Director, Water Management Division (WMDD).

This permit shall become effective on _____ for conversion and for injection on the date specified in the "Authorization to Inject." Upon authorization to inject, this permit shall remain in effect until the well is plugged and abandoned or the permit is terminated.

Signed this _____ day of _____ 19____.

Myron O. Knudson, P.E.
Director, Water Management Division
Environmental Protection Agency
Region 6

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Part I. SPECIAL PERMIT CONDITIONS

A. Construction Requirements

1. Surface casing shall be set at 23 feet below land surface and cemented back to the surface. The long string casing shall be set at 1158 feet below land surface and cemented with 45 sacks of cement.
2. The well shall be equipped with standard female fittings with cut-off valves connected to the tubing and the tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an EPA representative by attaching a gauge having a standard male fitting.
3. Tubing and packer must be installed. The packer must be run on the tubing and set inside the casing between 1035 and 1105 feet of depth below the land surface.

B. Operating Requirements

1. Authorization to inject will not be granted until the permittee shows to the satisfaction of the WMDD pursuant to 40 CFR 146.8 that the well has mechanical integrity. The well's mechanical integrity must be demonstrated prior to the start of injection and at least every five years thereafter. The permittee must notify the EPA Region 6 UIC office at least 14 days prior to mechanical integrity testing so that an EPA representative can witness the test.
2. Except during well stimulation, injection pressure at the wellhead shall not exceed 1,000 psig.
3. The permittee is authorized to inject salt water for enhanced oil recovery.
4. Injection volume shall be limited to 15,000 barrels per month.

C. Plugging and Abandonment Requirements

1. After a cessation of operations of two years, the operator shall plug and abandon the well in accordance with the following procedures:
 - (a) Set a cast iron bridge plug (CIBP) at 1550 feet below the land surface and spot a minimum of 10 feet of cement on the CIBP;
 - (b) Shoot off 4-1/2 inch casing at free point;

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- (c) Circulate cement from 100 feet below the land surface to the surface with interval between the cement plugs filled with drilling mud with a density of at least 9 pounds per gallon.
- 2. Permittee shall notify the RA at least 45 days before plugging and abandonment. Any modifications to the above procedures shall be included in this notice.
- 3. Within 60 days after plugging, a plugging report must be submitted. The report must include:
 - (a) A statement that plugging was complete in accordance with special permit condition I.C.1.; or
 - (b) If actual plugging differed from requirements of special permit condition I.C.1., specify the different procedures used.

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Part II. CONDITIONS APPLICABLE TO ALL PERMITS

A. Confidentiality

Any information except the permittee's name and address and information concerning the existence, absence or level of contaminants in drinking water may be claimed as confidential. Any claim of confidentiality must be asserted at the time of submission. If no claim is made, EPA may make the information available to the public without further notice.

B. Duty to Comply

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification.

Compliance with the terms of this grant does not constitute a defense to any action brought under Section 1431 of the Safe Drinking Water Act (SDWA) or any other law for any imminent or substantial endangerment to human health or the environment or for any breach of any other applicable legal duty.

2. The permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in a temporary emergency permit under 40 CFR 144.34.

C. Duty to Halt or Reduce Activity

It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Migrate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

E. Proper Operation and Maintenance

1. All injection wells must have and maintain mechanical integrity consistent with 40 CFR 146.8(b)(1) and 147.3010. Mechanical integrity must be demonstrated initially and also any time the tubing is removed from the well, the packer is reset, or a loss of mechanical integrity becomes evident during operation.

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Further, the Regional Administrator (RA) may by written notice require the permittee to demonstrate mechanical integrity at any time. The permittee shall notify the EPA Region 6 UIC office of his intent to prove mechanical integrity at least 14 days prior to such demonstration. The permittee shall report the results of the mechanical integrity demonstration within 30 days after completion (unless the demonstration is witnessed by an EPA inspector, in which case the inspector will prepare the report).

2. If the permittee or the RA finds that the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity as defined by 40 CFR 146.8 and 147.3010 becomes evident during operation, the operation shall be halted immediately and shall not be resumed until the RA gives approval to recommence injection.
3. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate engineering capability available, adequate funding, operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

F. Permit Actions

1. This permit may be modified, revoked and reissued, or terminated for the following causes (see 40 CFR 144.39 and 144.40):
 - a) There are substantial changes to the facility or activity which occurred after permit issuance that justify revised or additional permit conditions.
 - b) The RA has received information (e.g., from monitoring reports, inspections) which warrants a modified permit.
 - c) The regulations or standards on which the permit was based have changed.
 - d) The RA has received notice of a proposed permit transfer.
 - e) An interested person requests in writing that a permit be modified and the RA determines that cause for modification exists.

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- f) Cause exists for termination under 40 CFR 144.40, but the RA determines that permit modification is appropriate.

The modification described in 40 CFR 144.39 must be followed to accomplish the modifications described in item "a" through "f" of this section.

- 2. Minor modifications do not require that the procedure listed in 40 CFR 144.39 be followed. Minor modifications consist of:
 - a) Correcting typographical errors;
 - b) Requiring more frequent monitoring or reporting;
 - c) Changing ownership or operational control (see 40 CFR 144.38, Permit Transfers); or
 - d) Changing quantities or types of injected fluids, provided:
 - (i) The facility can operate within conditions of the permit;
 - (ii) The facility classification would not change.

The filing of a request by the permittee for a permit modification, or a notification of planned change or anticipated noncompliance, does not stay any permit condition.

G. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

H. Duty to Provide Information

The permittee shall furnish to the RA within a reasonable time any information which the RA requests to determine whether cause exists for modifying, revoking and reissuing or terminating this permit. The permittee shall also furnish to the RA, upon request, copies of records required to be kept by this permit.

I. Inspection and Entry

The permittee shall allow EPA representatives upon the presentation of credentials and other documentation to:

- 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records required by this permit are kept;

06SNMN2P9004

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

J. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the injection activity. The operator shall monitor the injection pressure (psi) and rate (bbl/day) once a month. Reporting of monitoring results shall be in accordance with procedures and at intervals prescribed in condition II.L.4 of this permit.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample measurement, report or application. This period may be extended by request of the RA at any time.

The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of any plugging and abandonment procedures specified under 40 CFR 144.28(c) and 144.28(j)(2). The RA may require the owner or operator to deliver the records to the RA at the conclusion of the retention period.

3. Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individuals who performed the sampling or measurements;
 - c) The date(s) analyses were performed;
 - d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used including quality assurance techniques employed to insure the generation of reliable data; and

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f) The results of such analyses.

4. The owner/operator shall retain all monitoring records for three (3) years, unless an enforcement action is pending, and then until three (3) years after the enforcement action has been resolved.

K. Signatory Requirements

All applications, reports, or information submitted to the RA shall be signed and certified (see 40 CFR 144.32) by the injection facility owner/operator or his duly authorized representative.

L. Reporting Requirements

1. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date on which injection commenced.
2. Planned changes - The permittee shall give advance notice to the RA of any planned changes which may result in noncompliance.
3. Transfers - This permit is not transferable to any person except after notice to the RA.
 - a) Permits may be transferred to another permittee:
 - (1) If the current permittee notifies the RA by certified mail at least 10 days before the proposed transfer date; and
 - (2) If the notice includes a written agreement between the existing and new permittees containing:
 - (i) A specific date for transfer of permit responsibility, coverage and liability; and
 - (ii) Assurance that the new permittee has a surety bond on file with BIA; and
 - (3) If the RA does not respond with a notice to the existing permittee that the permit will be modified.
 - b) If the conditions in paragraph (a) of this section are met, the transfer is effective on the date specified in paragraph (a)(2)(i).

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4. Monitoring reports - Monitoring results shall be reported annually on the EPA Annual Disposal/Injection Well Monitoring Report form or an identical format. The report shall specify the types of methods used to generate the monitoring data.
5. Compliance schedules - Reports of compliance or noncompliance with, or any progress report on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each interim date and final date of compliance.
6. Twenty-four hour reporting - The permittee shall report to EPA Region 6 UIC office any noncompliance which may endanger an underground source of drinking water. The report shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
7. The following shall be reported within 30 days of occurrence:
 - a) Any monitoring reports or other information required under paragraph 6 that is not available within five (5) days.
 - b) Any malfunction of the injection system including any mechanical failure or downhole problem involving well integrity, well workovers, or any noncompliance (40 CFR 144.27).
8. Other noncompliance - The permittee shall report all instances of noncompliance not reported under paragraphs 6 and 7 of this section at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph L.6 of this section.
9. The permittee shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated.
10. Other information. When the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the RA, the permittee shall promptly submit such facts or information.

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M. Additional Conditions

1. The operator of a well shall not allow the movement of fluid containing any contaminant into underground sources of drinking water if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may otherwise adversely affect human health.
2. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated. The well must be plugged within two years after termination of injection. The RA may extend the time to plug, but only if no fluid movement into a USDW will occur, and the operator has presented a viable plan for utilizing the well within a reasonable time.
3. The permittee shall notify the EPA Region 6 UIC office by certified mail at least forty-five (45) days prior to the commencement of plugging operations. The notice must include that information prescribed at 40 CFR 146.10.
4. Plugging and Abandonment - The well shall be plugged in a manner which will not allow movement of fluids either into or between underground sources of drinking water. Placement of cement plugs shall be accomplished by one of the methods described in 40 CFR 146.10 or some other method approved by the RA.

The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the RA, prior to the placement of the cement plug(s).

N. Financial Responsibility

The permittee must demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection well.

O. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

P. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provisions to other circumstances, and the remainder of this permit, shall not be affected thereby.

Q. Explanation of Terms

Terms used in this permit are defined as follows:

"RA" - Regional Administrator, Region 6 EPA

"UIC" - Underground Injection Control

"SDWA"/"the Act" - The Safe Drinking Water Act

"EPA Region 6 - U.S. Environmental Protection Agency (6W-SE)
1445 Ross Avenue
Dallas, Texas 75202-2733
Telephone - (214) 655-7165

"Well Stimulation" - means several processes used to clean the wellbore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

Other references to program - specific terms, acronyms and abbreviations shall mean those terms as defined by the UIC program regulations, 40 CFR 124, 144, 145, 146, 147 and the Safe Drinking Water Act.

STATEMENT OF BASIS

For proposed Underground Injection Control Permit No. GESHMNP2004 to convert well #1 to an enhanced oil recovery injection well.

Issuing office: U.S. Environmental Protection Agency (6M-SE)
Region 6
1445 Ross Avenue
Dallas, Texas 75201-2711

Applicant: Grand Resources, Incorporated
2230 East 7th Street, Suite 400
Tulsa, Oklahoma 74117

1. As described in the application, the well is located in San Juan County, New Mexico, 600 FSL, 1030 FTL, SW/4, Section 24, Township 32N, Range 28W.
2. On the basis of preliminary staff review, the Environmental Protection Agency has made a tentative determination to draft a permit for the conversion of this well as described in the application.
3. The following is an explanation of the derivation of the conditions of the draft permit and the basis for them as required under 40 CFR 124.7:

Area of Review

The area around the proposed injection well or project must be evaluated to ensure that the proposed injection will not cause movement of fluid into a USGW through improperly sealed, completed, or abandoned wells. The permit applicants submitted information on all wells of public record penetrating the injection interval within 1/2 mile of the proposed injection well and requested a maximum injection rate of 500 barrels per day (B/D).

There is no underground source of drinking water (USGW) in the area. Therefore, there is no corrective action necessary to protect a USGW.

Well Location

The well must be sited so that injection is into a formation which is separated from underground sources of drinking water (USDWs) by a confining zone free of known open faults or fractures within the area of review. The proposed injection interval in the Gallup Sand is at a depth of 1110 feet to 1126 feet below land surface. A review of available data has shown no evidence of faults or fractures in the confining zone within the area of review.

Construction Requirements

The well must be cased and cemented to prevent fluid movement into or between USDWs. There is no fresh water above the injection zone. Since the surface casing has already been set and cemented at 23 feet below land surface and the long string casing has been set at 1158 feet below the land surface and cemented with 45 sacks of cement, this is adequate in this case.

Operating Requirements

To assure the protection of USDWs adjacent the well bore, injection must be through an adequate tubing and packer. The packer must be set within 75 feet of the top of the injection interval. Since the top of the injection interval is 1110 feet, the packer in this well must be set inside the casing between 1035 and 1100 feet of depth below land surface.

Injection pressure at the wellhead shall be limited so that it does not initiate new fractures or propagate existing fractures in the confining zone adjacent to any USDW.

In this well, the maximum injection pressure at the wellhead shall not exceed 1,000 psia. Based on published break-down pressure for the Mesa Gully field, this is adequate to prevent fracturing of the confining zone.

To assure that USDWs are protected from injection fluids, the well must maintain mechanical integrity.

Mechanical integrity must be demonstrated prior to operation and at least once every five years thereafter [40 CFR 144.12(a)(8) and 144.23(e)(3)].

NEWSPAPER NOTICE

The Environmental Protection Agency (EPA) has received a complete Underground Injection Control (UIC) permit application number 08S10W2P0004, from Grand Resources, Incorporated, 2010 East 73rd Street, Suite 400, Tulsa, Oklahoma 74130, to convert a well to an enhanced oil recovery injection well located in San Juan County, New Mexico, 9th Quarter, Section 24, Township 27N, Range 18W. The application requests authorization to inject salt water into the Gallup Sand at an injection interval depth of 1110 to 1120 feet for enhanced recovery. A maximum of 37,000 barrels/month will be injected at a maximum pressure of 2,000 psia.

The permit application, supporting data, submitted by the applicant, the EPA draft permit and statement of basis are available for public review Monday through Friday from 8:00 a.m. to 4:00 p.m. at the Navajo Nation, Department of Water Management, Fort Defiance, Arizona, or at the Environmental Protection Agency, 144 West Avenue, Dallas, TX 75201-2117. Comments on the permit application and draft permit should be submitted to the Dallas office within 30 days of the date of this notice.

Any interested person may request a public hearing on the draft permit. The request must be in writing and must include the requestor's statement of the issues cited for discussion at the hearing. The request for public hearing must also be submitted to the Dallas office. EPA will give at least 30 days notice of the public hearing, if a hearing is to be held.

For more information or to obtain copies of the draft permit, application, or other documents, contact the EPA Region 7 UIC office at the above address or by telephoning (214) 615-7000.

JUN 21 1989

REPLY TO: OK-SL

Certified Mail #P 105 323 040 - Return Receipt Requested

Mr. Marvin J. Robinowitz, President
Grand Resources, Incorporated
2250 East 7th Street, Suite 400
Tulsa, Oklahoma 74136

Re: Draft DIC Permit and Statement of Basis
Permit No. 06SMMN2P9002 - San Juan County, New Mexico

Dear Mr. Robinowitz:

Enclosed is the public notice, statement of basis and the permit which has been drafted by the Environmental Protection Agency (EPA) under the authority of the Safe Drinking Water Act. Please submit any comments you may have in writing to the office at the address shown in the notice. The notice will be published in the Farmington Times.

Permits are also required by the Bureau of Land Management (BLM) and the New Mexico Oil Conservation District. If you have not yet obtained these permits, please contact these agencies at the addresses given below at your earliest convenience.

Area Manager
Farmington Resource Area Office
Bureau of Land Management
Callor Service 4140
Farmington, New Mexico 87499
Telephone: (505) 325-4077

New Mexico Oil Conservation Division
New Mexico Energy and Minerals Department
Post Office Box 2088
Santa Fe, New Mexico 87501
Telephone: (505) 827-5802

Authorization to complete the work described in your permit application must be received by both the EPA and BLM prior to commencement of work.

If you have any questions, please have your staff contact Ms. Betty West of my staff at (514) 525-7165.

Sincerely yours,

Myron D. Kinsman, P.E.
Director
Water Management Division (OW)

Enclosures

cc: with enclosures:
BIA Gallup, New Mexico
BLM, Farmington, New Mexico
NM Off Conservation Division, Santa Fe, New Mexico
Navajo Nation Tribe

ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL (UIC) PERMIT

Permit No. 06SNMN2P9002
Well No. C-5

AUTHORIZATION TO CONVERT A WELL TO
AN INJECTION WELL UNDER THE UIC PROGRAM
NAVAJO NATION

In compliance with the provisions of the Safe Drinking Water Act, (hereafter referred to as "the Act" or "SDWA") as amended (42 U.S.C. §300f et seq.),

Grand Resources, Incorporated
2250 East 73rd Street, Suite 400
Tulsa, Oklahoma 74136

is authorized to convert a well to a Class II enhanced oil recovery injection well in San Juan County, New Mexico at:

2310 feet from the South line and 330 feet from the West line, SW Quarter, Section 14, Township 32N, Range 18W into the injection interval at a depth of 1641 feet to 1666 feet below land surface in the Gallup Sand in accordance with the construction and operation requirements, injection pressure limits, reporting and monitoring requirements, and other conditions set forth in Parts I and II of this permit and the New Mexico Indian Lands Class II Underground Injection Control Program and Regulations.

Authorization to inject fluids into the well described in this permit shall be separately granted. Such authorization may be verbally granted by the Chief, UIC Permits and Enforcement Section when the operator has satisfactorily demonstrated compliance with special permit conditions I.A.1., I.A.2., I.A.3., and I.B.1. Any verbal authorization to inject will be followed by a written "Authorization to Inject" from the Director, Water Management Division (WMDD).

This permit shall become effective on _____ for conversion and for injection on the date specified in the "Authorization to Inject." Upon authorization to inject, this permit shall remain in effect until the well is plugged and abandoned or the permit is terminated.

Signed this _____ day of _____ 19____.

Myron O. Knudson, P.E.
Director, Water Management Division
Environmental Protection Agency
Region 6

DRAFT

Part I. SPECIAL PERMIT CONDITIONS

A. Construction Requirements

1. Surface casing shall be set at 30 feet below land surface and cemented back to the surface. The long string casing shall be set at 1749 feet below land surface and cemented with 35 sacks of cement.
2. The well shall be equipped with standard female fittings with cut-off valves connected to the tubing and the tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an EPA representative by attaching a gauge having a standard male fitting.
3. Tubing and packer must be installed. The packer must be run on the tubing and set inside the casing between 1566 and 1636 feet of depth below the land surface.

B. Operating Requirements

1. Authorization to inject will not be granted until the permittee shows to the satisfaction of the WMDD pursuant to 40 CFR 146.8 that the well has mechanical integrity. The well's mechanical integrity must be demonstrated prior to the start of injection and at least every five years thereafter. The permittee must notify the EPA Region 6 UIC office at least 14 days prior to mechanical integrity testing so that an EPA representative can witness the test.
2. Except during well stimulation, injection pressure at the wellhead shall not exceed 1,000 psig.
3. The permittee is authorized to inject salt water for enhanced oil recovery.
4. Injection volume shall be limited to 15,000 barrels per month.

C. Plugging and Abandonment Requirements

1. After a cessation of operations of two years, the operator shall plug and abandon the well in accordance with the following procedures:
 - (a) Set a cast iron bridge plug (CIBP) at 1550 feet below the land surface and spot a minimum of 10 feet of cement in the CIBP;



- (b) Shoot off 4-1/2 inch casing at free point;
 - (c) Circulate cement from 100 feet below the land surface to the surface with interval between the cement plugs filled with drilling mud with a density of at least 9 pounds per gallon.
2. Permittee shall notify the RA at least 45 days before plugging and abandonment. Any modifications to the above referenced procedures shall be included in this notice.
 3. Within 60 days after plugging, a plugging report must be submitted. The report must include:
 - (a) A statement that plugging was complete in accordance with special permit condition I.C.1.; or
 - (b) If actual plugging differed from requirements of special permit condition I.C.1., specify the different procedures used.



Part II. CONDITIONS APPLICABLE TO ALL PERMITS

A. Confidentiality

Any information except the permittee's name and address and information concerning the existence, absence or level of contaminants in drinking water may be claimed as confidential. Any claim of confidentiality must be asserted at the time of submission. If no claim is made, EPA may make the information available to the public without further notice.

B. Duty to Comply

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification.

Compliance with the terms of this grant does not constitute a defense to any action brought under Section 1431 of the Safe Drinking Water Act (SDWA) or any other law for any imminent or substantial endangerment to human health or the environment or for any breach of any other applicable legal duty.

2. The permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in a temporary emergency permit under 40 CFR 144.34.

C. Duty to Halt or Reduce Activity

It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Migrate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

E. Proper Operation and Maintenance

1. All injection wells must have and maintain mechanical integrity consistent with 40 CFR 146.8(b)(1) and 147.3010. Mechanical integrity must be demonstrated initially and also any time the tubing is removed from the well, the packer is reset, or a loss of mechanical integrity becomes evident during operation.

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Further, the Regional Administrator (RA) may by written notice require the permittee to demonstrate mechanical integrity at any time. The permittee shall notify the EPA Region 6 UIC office of his intent to prove mechanical integrity at least 14 days prior to such demonstration. The permittee shall report the results of the mechanical integrity demonstration within 30 days after completion (unless the demonstration is witnessed by an EPA inspector, in which case the inspector will prepare the report).

2. If the permittee or the RA finds that the well fails to demonstrate mechanical integrity during a test, or a loss of mechanical integrity as defined by 40 CFR 146.8 and 147.3010 becomes evident during operation, the operation shall be halted immediately and shall not be resumed until the RA gives approval to recommence injection.
3. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate engineering capability available, adequate funding, operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

F. Permit Actions

1. This permit may be modified, revoked and reissued, or terminated for the following causes (see 40 CFR 144.39 and 144.40):
 - a) There are substantial changes to the facility or activity which occurred after permit issuance that justify revised or additional permit conditions.
 - b) The RA has received information (e.g., from monitoring reports, inspections) which warrants a modified permit.
 - c) The regulations or standards on which the permit was based have changed.
 - d) The RA has received notice of a proposed permit transfer.
 - e) An interested person requests in writing that a permit be modified and the RA determines that cause for modification exists.

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- f) Cause exists for termination under 40 CFR 144.40, but the RA determines that permit modification is appropriate.

The modification described in 40 CFR 144.39 must be followed to accomplish the modifications described in item "a" through "f" of this section.

- 2. Minor modifications do not require that the procedure listed in 40 CFR 144.39 be followed. Minor modifications consist of:
 - a) Correcting typographical errors;
 - b) Requiring more frequent monitoring or reporting;
 - c) Changing ownership or operational control (see 40 CFR 144.38, Permit Transfers); or
 - d) Changing quantities or types of injected fluids, provided:
 - (i) The facility can operate within conditions of the permit;
 - (ii) The facility classification would not change.

The filing of a request by the permittee for a permit modification, or a notification of planned change or anticipated noncompliance, does not stay any permit condition.

G. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

H. Duty to Provide Information

The permittee shall furnish to the RA within a reasonable time any information which the RA requests to determine whether cause exists for modifying, revoking and reissuing or terminating this permit. The permittee shall also furnish to the RA, upon request, copies of records required to be kept by this permit.

I. Inspection and Entry

The permittee shall allow EPA representatives upon the presentation of credentials and other documentation to:

- 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records required by this permit are kept;

06/27/07

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

J. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the injection activity. The operator shall monitor the injection pressure (psi) and rate (bbl/day) once a month. Reporting of monitoring results shall be in accordance with procedures and at intervals prescribed in condition II.L.4 of this permit.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample measurement, report or application. This period may be extended by request of the RA at any time.

The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of any plugging and abandonment procedures specified under 40 CFR 144.28(c) and 144.28(j)(2). The RA may require the owner or operator to deliver the records to the RA at the conclusion of the retention period.

3. Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individuals who performed the sampling or measurements;
 - c) The date(s) analyses were performed;
 - d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used including quality assurance techniques employed to insure the generation of reliable data; and

f) The results of such analyses.

4. The owner/operator shall retain all monitoring records for three (3) years, unless an enforcement action is pending, and then until three (3) years after the enforcement action has been resolved.

K. Signatory Requirements

All applications, reports, or information submitted to the RA shall be signed and certified (see 40 CFR 144.32) by the injection facility owner/operator or his duly authorized representative.

L. Reporting Requirements

1. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date on which injection commenced.
2. Planned changes - The permittee shall give advance notice to the RA of any planned changes which may result in noncompliance.
3. Transfers - This permit is not transferable to any person except after notice to the RA.
 - a) Permits may be transferred to another permittee:
 - (1) If the current permittee notifies the RA by certified mail at least 10 days before the proposed transfer date; and
 - (2) If the notice includes a written agreement between the existing and new permittees containing:
 - (i) A specific date for transfer of permit responsibility, coverage and liability; and
 - (ii) Assurance that the new permittee has a surety bond on file with BIA; and
 - (3) If the RA does not respond with a notice to the existing permittee that the permit will be modified.
 - b) If the conditions in paragraph (a) of this section are met, the transfer is effective on the date specified in paragraph (a)(2)(i).



4. Monitoring reports - Monitoring results shall be reported annually on the EPA Annual Disposal/Injection Well Monitoring Report form or an identical format. The report shall specify the types of methods used to generate the monitoring data.
5. Compliance schedules - Reports of compliance or noncompliance with, or any progress report on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each interim date and final date of compliance.
6. Twenty-four hour reporting - The permittee shall report to EPA Region 6 UIC office any noncompliance which may endanger an underground source of drinking water. The report shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
7. The following shall be reported within 30 days of occurrence:
 - a) Any monitoring reports or other information required under paragraph 6 that is not available within five (5) days.
 - b) Any malfunction of the injection system including any mechanical failure or downhole problem involving well integrity, well workovers, or any noncompliance (40 CFR 144.27).
8. Other noncompliance - The permittee shall report all instances of noncompliance not reported under paragraphs 6 and 7 of this section at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph L.6 of this section.
9. The permittee shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated.
10. Other information. When the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the RA, the permittee shall promptly submit such facts or information.



M. Additional Conditions

1. The operator of a well shall not allow the movement of fluid containing any contaminant into underground sources of drinking water if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 142 or may otherwise adversely affect human health.
2. The owner/operator shall notify the EPA Region 6 UIC office within 30 days of the date injection has terminated. The well must be plugged within two years after termination of injection. The RA may extend the time to plug, but only if no fluid movement into a USDW will occur, and the operator has presented a viable plan for utilizing the well within a reasonable time.
3. The permittee shall notify the EPA Region 6 UIC office by certified mail at least forty-five (45) days prior to the commencement of plugging operations. The notice must include that information prescribed at 40 CFR 146.10.
4. Plugging and Abandonment - The well shall be plugged in a manner which will not allow movement of fluids either into or between underground sources of drinking water. Placement of cement plugs shall be accomplished by one of the methods described in 40 CFR 146.10 or some other method approved by the RA.

The well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the RA, prior to the placement of the cement plug(s).

N. Financial Responsibility

The permittee must demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection well.

O. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

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P. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provisions to other circumstances, and the remainder of this permit, shall not be affected thereby.

Q. Explanation of Terms

Terms used in this permit are defined as follows:

"RA" - Regional Administrator, Region 6 EPA

"UIC" - Underground Injection Control

"SDWA"/"the Act" - The Safe Drinking Water Act

"EPA Region 6" - U.S. Environmental Protection Agency (6W-SE)
1445 Ross Avenue
Dallas, Texas 75202-2733
Telephone - (214) 655-7165

"Well Stimulation" - means several processes used to clean the wellbore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

Other references to program - specific terms, acronyms and abbreviations shall mean those terms as defined by the UIC program regulations, 40 CFR 124, 144, 145, 146, 147 and the Safe Drinking Water Act.

DRAFT

STATEMENT OF BASIS

For proposed Underground Injection Control Permit No. 06SNMN2P9002 to convert well # C-5 to an enhanced oil recovery injection well.

Issuing office: U.S. Environmental Protection Agency (6W-SE)
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Applicant: Grand Resources, Incorporated
2250 East 73rd Street, Suite 400
Tulsa, Oklahoma 74136

1. As described in the application, the well is located in San Juan County, New Mexico, 2310 FSL, 330 FWL, SW/4, Section 14, Township 32N, Range 18W.
2. On the basis of preliminary staff review, the Environmental Protection Agency has made a tentative determination to draft a permit for the conversion of this well as described in the application.
3. The following is an explanation of the derivation of the conditions of the draft permit and the basis for them as required under 40 CFR 124.7:

Area of Review

The area around the proposed injection well or project must be evaluated to ensure that the proposed injection will not cause movement of fluid into a USDW through improperly sealed, completed, or abandoned wells. The permit applicant submitted information on all wells of public record penetrating the injection interval within 1/2 mile of the proposed injection and requested a maximum injection rate of 500 barrels per day (B/D).

There is no USDW in the area, therefore there is no corrective action necessary to protect an underground source of drinking water.

Well Location

The well must be sited so that injection is into a formation which is separated from underground sources of drinking water (USDWs) by a confining zone free of known open faults or fractures within the area of review. The proposed injection interval in the Gallup Sand is at a depth of 1641 feet to 1666 feet below land surface. A review of available data has shown no evidence of faults or fractures in the confining zone within the area of review.

Construction Requirements

The well must be cased and cemented to prevent fluid movement into or between USDWs. There is no fresh water above the injection zone. Since the surface casing has already been set and cemented at 30 feet below land surface and the long string casing has been set at 1749 feet below the land surface and cemented with 35 sacks of cement, this is adequate in this case.

Operating Requirements

To assure the protection of USDWs adjacent the well bore, injection must be through an adequate tubing and packer. The packer must be set within 75 feet of the top of the injection interval. Since the top of the injection interval is 1641 feet, the packer in this well must be set inside the casing between 1566 and 1636 feet of depth below land surface.

Injection pressure at the wellhead shall be limited so that it does not initiate new fractures or propagate existing fractures in the confining zone adjacent to any USDW.

In this well, the maximum injection pressure at the wellhead shall not exceed 1,000 psig. Based on published break-down pressure for the Mesa Gallup field, this is adequate to prevent fracturing of the confining zone.

To assure that USDWs are protected from injection fluids, the well must maintain mechanical integrity.

Mechanical integrity must be demonstrated prior to operation and at least once every five years thereafter [40 CFR 144.52(a)(8) and 146.23(b)(3)].



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200

DALLAS, TEXAS 75201

JUN 21 1989

REPLY TO: 6W-SE

Certified Mail #P 105 323 645 - Return Receipt Requested

Farmington Times
Box 450
Farmington, New Mexico 87499-0450

Re: Permit No: 06SNMN2P9002

Dear Sir:

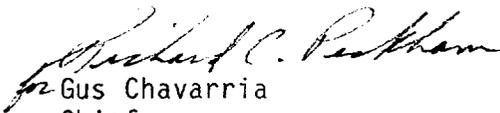
Please publish the enclosed notice of the referenced Underground Injection Control (UIC) draft permit as soon as possible.

The publisher's affidavit of publication along with a copy of the published notice and billing invoice should be forwarded to the Navajo UIC office at the address shown below:

UIC Program - Navajo Nation
Department of Environmental Protection Administration
Division of Natural Resources
Post Office Box 308
Window Rock, AZ 86515

Please call me at (214) 655-7165 if you have any questions.

Sincerely yours,


for Gus Chavarria

Chief
UIC Permits and Enforcement Section (6W-SE)

Enclosure

NEWSPAPER NOTICE

The Environmental Protection Agency (EPA) has received a complete Underground Injection Control (UIC) permit application number 06SNMN2P9002, from Grand Resources, Incorporated, 2250 East 73rd Street, Suite 400, Tulsa, Oklahoma 74136, to convert a well to an enhanced oil recovery injection well located in San Juan County, New Mexico, SW Quarter, Section 14, Township 32N, Range 18W. The application requests authorization to inject salt water into the Gallup Sand at an injection interval depth of 1641 to 1666 feet for enhanced recovery. A maximum of 15,000 barrels/month will be injected at a maximum pressure of 1,000 psig.

The permit application, supporting data submitted by the applicant, the EPA draft permit and statement of basis are available for public review Monday through Friday from 8:00 a.m. to 4:00 p.m. at the Navajo Nation, Department of Water Management, Fort Defiance, Arizona or at the Environmental Protection Agency, 1445 Ross Avenue, Dallas, TX 75202-2733. Comments on the permit application and draft permit should be submitted to the Dallas office within 30 days of the date of this notice.

Any interested person may request a public hearing on the draft permit. The request must be in writing and must include the requestor's statement of the issues cited for discussion at the hearing. The request for public hearing must also be submitted to the Dallas office. EPA will give at least 30 days notice of the public hearing, if a hearing is to be held.

For more information or to obtain copies of the draft permit, application, or other documents, contact the EPA Region 6 UIC office at the above address or by telephoning (214) 655-7165.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

June 29, 1989



GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Environmental Protection Agency
Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Attention: Mr. Oscar Cabra (6W-S)

Re: UIC Permit Nos. 06SNMN2P9002
06SNMN2P9003
06SNMN2P9004

Dear Mr. Cabra:

I have received the above-described draft permits issued to Grand Resources Inc., for three proposed secondary recovery injection wells located in the Mesa Gallup Oil Pool in San Juan County, New Mexico, and the Division would like to submit the following comments in regards to certain provisions contained therein.

EPA has proposed allowing these wells to inject water at a maximum surface pressure of 1000 psi. In light of the fact that the Division would normally utilize a gradient of 0.2 psi per foot of depth to the uppermost perforation in assigning maximum injection pressures, we feel that the proposed pressure is excessive. It is my understanding that the proposed pressure was determined to be below fracture pressure based upon published information which indicates that the initial fracture pressure of the Gallup formation in this area is considerably higher than 1000 psi. In its early stages of production, the bottom hole pressure of a given reservoir is usually much higher than when the reservoir is depleted. For this reason, we feel that the initial fracture pressure is not indicative of the actual fracture pressure of a reservoir at the time of commencement of waterflood operations.

In addition, I have reviewed the current injection pressures of wells injecting into the Horseshoe Gallup Oil Pool which is located in close proximity to the Mesa Gallup Oil Pool, and have found that these pressures range from approximately 160 psi to 885 psi., which further supports our conclusion that the proposed pressure is excessive.

It is our opinion that in setting maximum injection pressures, the safest approach is to initially utilize the 0.2 psi per foot gradient, and require the operator to conduct step rate tests to justify subsequent increases.

I realize that there are no USDW's in this particular area, however under its statutory obligation to prevent waste and protect correlative rights, the Division is empowered to determine if the proposed waterflood is operating efficiently, which would include a determination that the injected water is being confined to the injection interval which in turn has a direct bearing on injection pressure. Accordingly, the Division Order approving the proposed waterflood project will contain a pressure limitation on the injection wells as described above, and I suggest that you give some consideration to instituting a pressure limitation in accordance with Division procedures.

Thank you for the opportunity for comment.

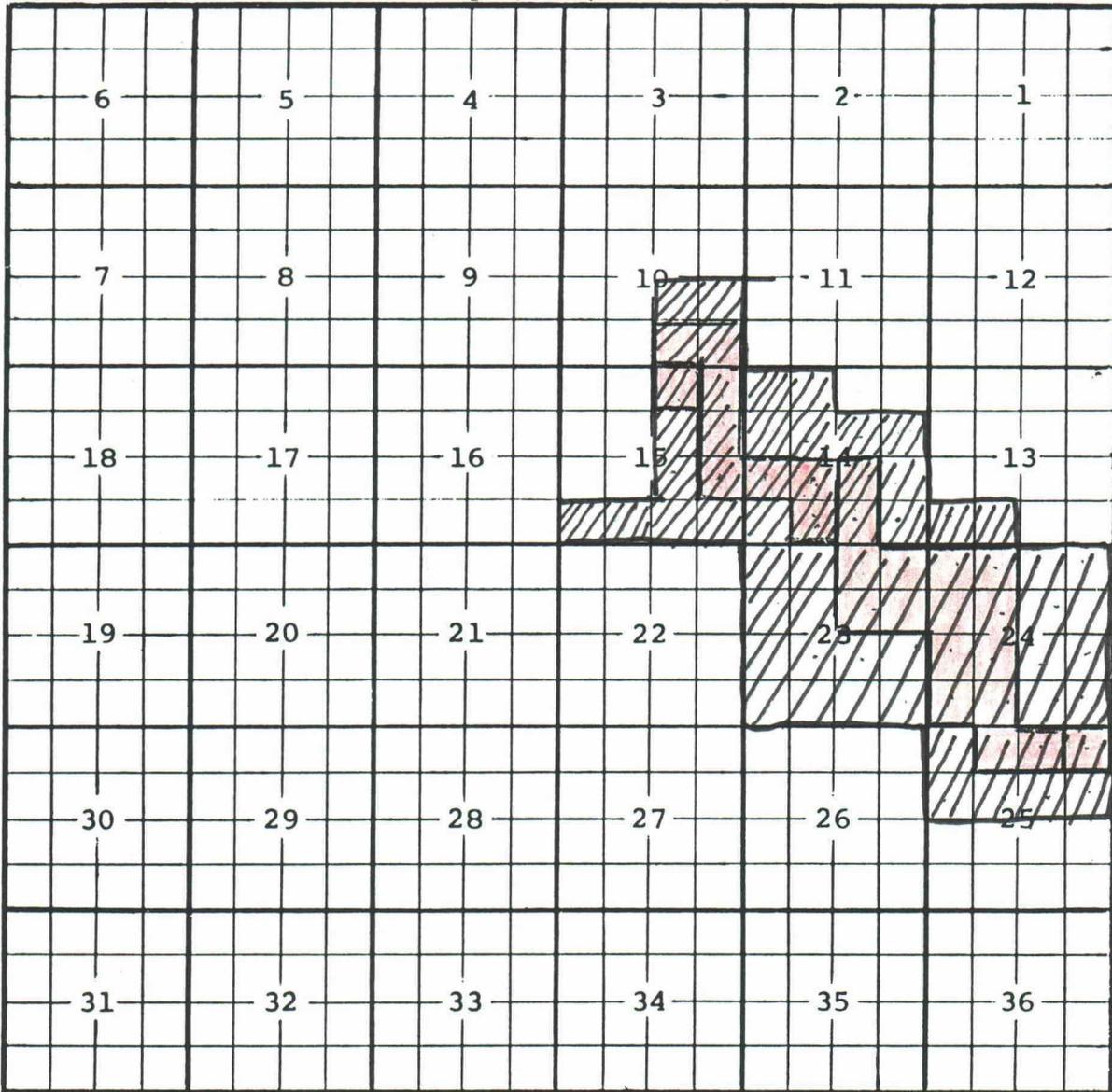
Sincerely,

A handwritten signature in cursive script that reads "David Catanach". The signature is written in black ink and has a long, sweeping horizontal tail at the end.

David Catanach
UIC Director

County San Juan Pool Mesa-Gallup Oil

Township 32 North Range 18 West NMPM



Description: $\frac{1}{2}$ $\frac{SE}{4}$ Sec. 14; $\frac{NE}{4}$ Sec. 23; $\frac{1}{2}$ Sec. 24; $\frac{NW}{4}$, $\frac{NE}{4}$ & $\frac{NE}{4}$, $\frac{NW}{4}$ Sec. 25 (R-2242, 6-1-62)
Ext: $\frac{NE}{4}$, $\frac{NE}{4}$ Sec. 25 (R-3167, 1-1-67) - $\frac{S}{2}$, $\frac{SE}{4}$ Sec. 10; $\frac{N}{2}$, $\frac{SW}{4}$ & $\frac{SE}{4}$, $\frac{SW}{4}$ Sec. 14; $\frac{ENE}{24}$ & $\frac{NGSE}{4}$ Sec. 15 (R-3856)
- $\frac{NW}{4}$, $\frac{NE}{4}$ Sec. 15 (R-4292, 5-1-72)

70x40 =
2800
Acres:

CAMPBELL & BLACK, P.A.

LAWYERS

JACK M. CAMPBELL
BRUCE D. BLACK
MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
MARK F. SHERIDAN
J. SCOTT HALL
JOHN H. BEMIS
WILLIAM P. SLATTERY
MARTE D. LIGHTSTONE
PATRICIA A. MATTHEWS

JEFFERSON PLACE
SUITE 1 - 110 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87504-2208
TELEPHONE: (505) 988-4421
TELECOPIER: (505) 983-6043

March 17, 1989

HAND-DELIVERED

William J. LeMay, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
State Land Office Building
Santa Fe, New Mexico 87503

DAC
RECEIVED

MAR 17 1989

OIL CONSERVATION DIVISION

Re: Oil Conservation Division Case No. 9636
In the Matter of the Application of Grand Resources Inc.
for Statutory Unitization, San Juan County, New Mexico

and

Oil Conservation Division Case No. 9637
In the Matter of the Application of Grand Resources Inc.
for a Waterflood Project, San Juan County, New Mexico

Dear Mr. LeMay:

Grand Resources Inc. requests that each of the above-referenced cases currently scheduled for hearing on March 29, 1989 be continued to the Examiner hearings scheduled for April 12, 1989.

Your attention to this request is appreciated.

Very truly yours,

William F. Carr
WILLIAM F. CARR

WFC:mlh

cc: Mr. Marvin J. Robinowitz
W. Thomas Kellahin, Esq.
Air-Mex Corporation, Attn: Skip Nightengale

CAMPBELL & BLACK, P.A.

LAWYERS

JACK M. CAMPBELL
BRUCE D. BLACK
MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
MARK F. SHERIDAN
J. SCOTT HALL
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JEFFERSON PLACE
SUITE I - 110 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87504-2208
TELEPHONE: (505) 988-4421
TELECOPIER: (505) 983-6043

March 31, 1989

HAND-DELIVERED

RECEIVED

MAR 31 1989

OIL CONSERVATION DIVISION

William J. LeMay, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
State Land Office Building
Santa Fe, New Mexico 87503

Re: Oil Conservation Division Case No. 9636
In the Matter of the Application of Grand Resources Inc.
for Statutory Unitization, San Juan County, New Mexico

and

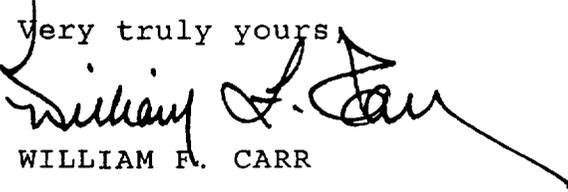
Oil Conservation Division Case No. 9637
In the Matter of the Application of Grand Resources Inc.
for a Waterflood Project, San Juan County, New Mexico

Dear Mr. LeMay:

Grand Resources Inc. requests that each of the above-referenced cases currently scheduled for hearing on April 12, 1989 be continued to the Examiner hearings scheduled for April 26, 1989.

Your attention to this request is appreciated.

Very truly yours,


WILLIAM F. CARR

WFC:mlh

cc: Mr. Marvin J. Robinowitz
W. Thomas Kellahin, Esq.
Air-Mex Corporation, Attn: Skip Nightengale

OIL CONSERVATION DIVISION

F

August 21, 1995

21st Century Investments
 c/o Walsh Engineering & Production Corp.
 7415 East Main
 Farmington, New Mexico 87402

Case
 9637

Attn: Mr. Paul C. Thompson

**RE: Injection Pressure Increase Mesa Gallup Unit Waterflood Project,
 San Juan County, New Mexico**

Dear Mr. Thompson:

Reference is made to your request dated July 24, 1995 to increase the surface injection pressure on 6 wells in the above referenced waterflood project. This request is based on two representative step rate tests conducted on two of the wells on July 10, 1995. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

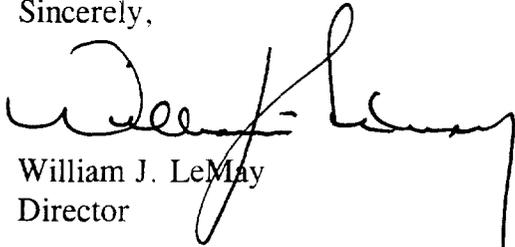
You are therefore authorized to increase the surface injection pressure on the following wells:

Well and Location	Maximum Surface Injection Pressure
Navajo 'C' Well No.1, Unit Letter H, Section 15	700 PSIG
Navajo Well No.3, Unit Letter N, Section 24	700 PSIG
Navajo Well No.11, Unit Letter B, Section 23	700 PSIG
Navajo Well No.4, Unit Letter J, Section 14	700 PSIG
Navajo 'C' Well No.7, Unit Letter E, Section 24	700 PSIG
Navajo 'C' Well No.3, Unit Letter O, Section 14	700 PSIG
All wells located Township 32 North, Range 18 West, San Juan County, New Mexico.	

Injection Pressure Increase
21st Century Investments
August 21, 1995
Page 2

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

A handwritten signature in black ink, appearing to read "William J. LeMay". The signature is written in a cursive style with a large, looping initial "W".

William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Aztec
Files: Case File No. 9637; WFX-659; PSI-X 3rd QTR 95