BW - 19

GENERAL CORRESPONDENCE

YEAR(S):

1993 → 1986

UNICHEM
INTERNATIONAL

707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, Fax 505/393-6754

DIVISION

93 MR 9 AM 9 42

March 9, 1993

Mr. William J. LeMay
NM Oil Conservation Division
State Land Office Building
P.O. Box 2088
Santa Fe, NM 87504

CERTIFIED MAIL P 661 764 512

Dear Mr. LeMay:

Please be advised that Unichem International is selling its Rowland Trucking Company subsidiary to Mr. Bob Calhoon, P.O. Box 340, Hobbs, NM 88241.

Attached is a certified letter and signed receipt notifying Mr. Calhoon of the transfer of the following discharge plans.

- Unichem International Inc., Trucker's #2 Brine Station Plan BW-18
- Unichem International Inc., Carlsbad Brine Station Plan BW-19
- Unichem International Inc., Eunice Brine Station Plan BW-16
- Unichem International Inc., Truckers #1 Brine Station DP #370- Well plugged 12/90

If you have any questions please do not hesitate to call or write.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

LWP:jd
cc: B. Clements
R. Brakey
M. Hughes
Environmental File

UNICHEM
INTERNATIONAL
707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, Fax 505/393-6754

March 9, 1993

Mr. Bob Calhoon
Rowland Trucking Company Inc.
P.O. Box 340
Hobbs, NM 88241

CERTIFIED MAIL P 661 764 513

Dear Mr. Calhoon:

Pursuant to the State of New Mexico Water Quality Control Commission and to the Energy and Minerals Department Oil Conservation Division Rules and Regulations, Unichem International is required by law to notify you that we are transferring the following discharge permits to your company.

- Unichem International Inc., Trucker's #2 Brine Station Plan BW-18
- Unichem International Inc., Carlsbad Brine Station Plan BW-19
- Unichem International Inc., Eunice Brine Station Plan BW-16
- Unichem International Inc., Truckers #1 Brine Station DP #370- Well plugged 12/90

For your reference please find WQCC Part 3-111 (transfer of Discharge Plan) attached.

If you have any questions please do not hesitate to call or write.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price

Wayne Price
Staff Engineer

LWP:jd
cc: B. Clements
R. Brakey
M. Hughes
Environmental File

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)*
2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

Mr. Bob Calhoon
Rowland Trucking Company
P.O Box 340
Hobbs, NM 88240

4. Article Number
p 661 764 513

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X Mary Hughes

7. Date of Delivery
3/19/93

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form 3811, Apr. 1989 *U.S.G.P.O. 1989-238-815 DOMESTIC RETURN RECEIPT

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

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

November 1, 1991

CERTIFIED MAIL
RETURN RECEIPT NO. P-106-675-376

Mr. Richard Brakey
Rowland Trucking Company
418 South Grimes
Hobbs, New Mexico 88240

RE: Approval of Discharge Plan BW-19
Unichem International Inc., Carlsbad Brine Station

Dear Mr. Brakey:

The **discharge plan renewal BW-19 for the Unichem International Inc., Carlsbad Brine Station** located in the SE/4 NE/4, Section 36, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico, **is hereby approved.** The renewal application consists of the original discharge plan as approved December 18, 1982; the renewal and modification of the discharge plan approved December 19, 1986; the renewal application dated May 8, 1991; and the materials dated October 14, 1991, submitted as supplements to the application.

The discharge plan renewal was submitted pursuant to Section 5-101.B.3 of the New Mexico Water Quality Control Commission Regulations. It is approved pursuant to Sections 5-101.A and 3-109.C. Please note Sections 3-109.E and 3-109.F which provide for possible future amendments or modifications of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface water, ground water, or the environment which may be actionable under other laws and/or regulations.

The monitoring and reporting shall be as specified in the above referenced materials. Please note that Section 3-104 of the regulations requires that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3-107.C you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3-109.G.4, this plan is for a period of five (5) years. This approval will expire December 19, 1996, and you should submit an application for renewal in ample time before this date. Note that under Section 5-101.G of the regulations, if a discharger submits a discharge plan renewal application at least 180 days before the discharge plan expires and is in compliance with the approved plan, then the existing discharge plan will not expire until the application for renewal has been approved or disapproved.

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,

William J. LeMay
Director

WJL/KMB

cc: OCD Artesia Office

ROWLAND TRUCKING COMPANY

A DIVISION OF EUNICE RENTAL TOOL COMPANY

PHONE
[505] 397-4994

418 SOUTH GRIMES
HOBBS, NEW MEXICO 88240

PHONE
[505] 393-9023

October 14,1991

Kathy M. Brown
Envioriornmental Biologist
P.O. Box 2088
Santa Fe, New Mexico 87504

Dear Ms. Brown:

Enclosed are documents requested for renewal of Discharge Plan # BW-19 (formally DP 372) operated in Carlsbad, New Mexico, by Rowland Trucking.

1. A. Mechanical Integrity Test:

   The Brine Well was pressure tested on 8/20/91 The test met with approval from Mike Williams, O.C.D., Artesia. The results of the test have previously been forwarded to your Santa Fe, office.

   B. Rowland plans to test isolation of the casing from the formation in February of 1993.

   C. There are no longer any buried brine pipelines on the well site. All have been raised for visual and physical testing and monitoring.

2. Reporting for Quarterly Listings, (By Month);

   A. Volume of fluid injected

   B. Volume of fluid produced

   C. Brine analysis, all are currently being kept, also all major leaks and spills are being reported upon occurrence.

3. Collapse and Subsidence:

   Simon Environmental Services out of Norman, Oklahoma was retained to figure: the results are enclosed. Enclosure #1 & 2.

4. A. 2 Brine Tanks
   1 Overflow Tank

   B. Brine tanks are valved together,(with ability to be isolated if needed.)

ROWLAND TRUCKING COMPANY

A DIVISION OF

EUNICE RENTAL TOOL COMPANY

PHONE
[505] 397-4994

418 SOUTH GRIMES

HOBBS, NEW MEXICO 88240

PHONE
[505] 393-9023

C. Yes

D. The brine overflow tank is included within the main tank battery berm.

E. The old brine storage tank has been disabled (one end completely removed) to prohibit storage. It is not being used for anything at this time.

F. Loading area is now being done on a concrete pad.

G. Yes, we can load freshwater from this station and occasionally do so.

5. The underground sumps are drained weekly.(minimum) and are visually inspsected for any cracks or leaks by the supervisor of the Carlsbad yard. They are also checked monthly by Safety and Environmental personnel out of Hobbs.

6. The plugging bond on the brine well is still pending.

7. Closure of site consists of removing all surface equipment and structure, cementing, (plugging) well and grade facility to allow natural state to return.
If any additional information is requested, please feel free to contact me at 505-393-3669. The Bond will forwarded to you at earliest convenience.

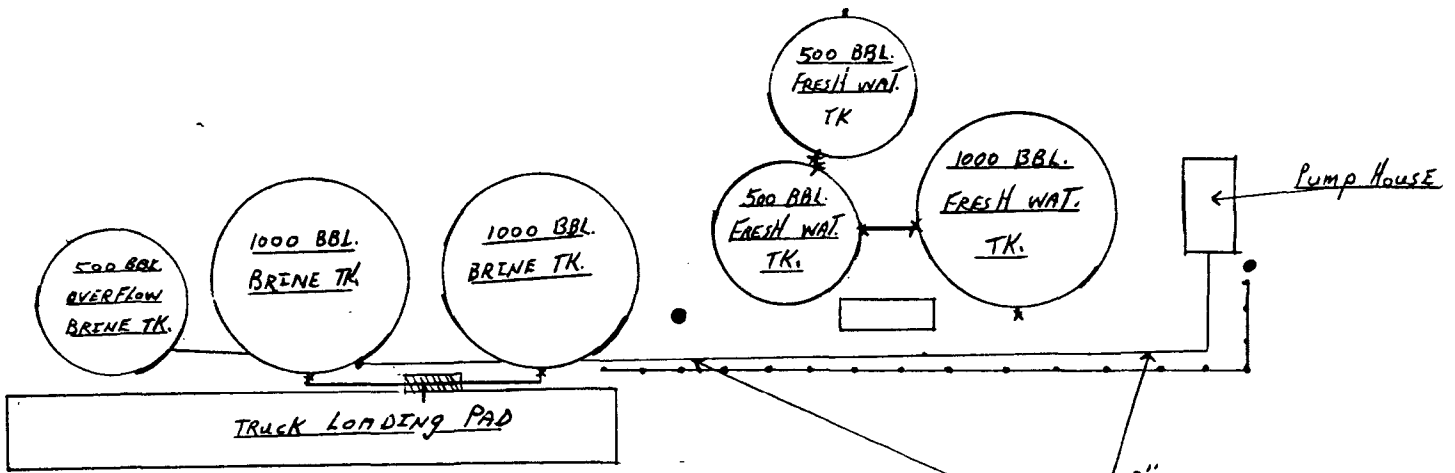
Sincerely,

Norman D. Denton

Norman D.Denton
Safety/Environmental
Rowland Trucking Co.

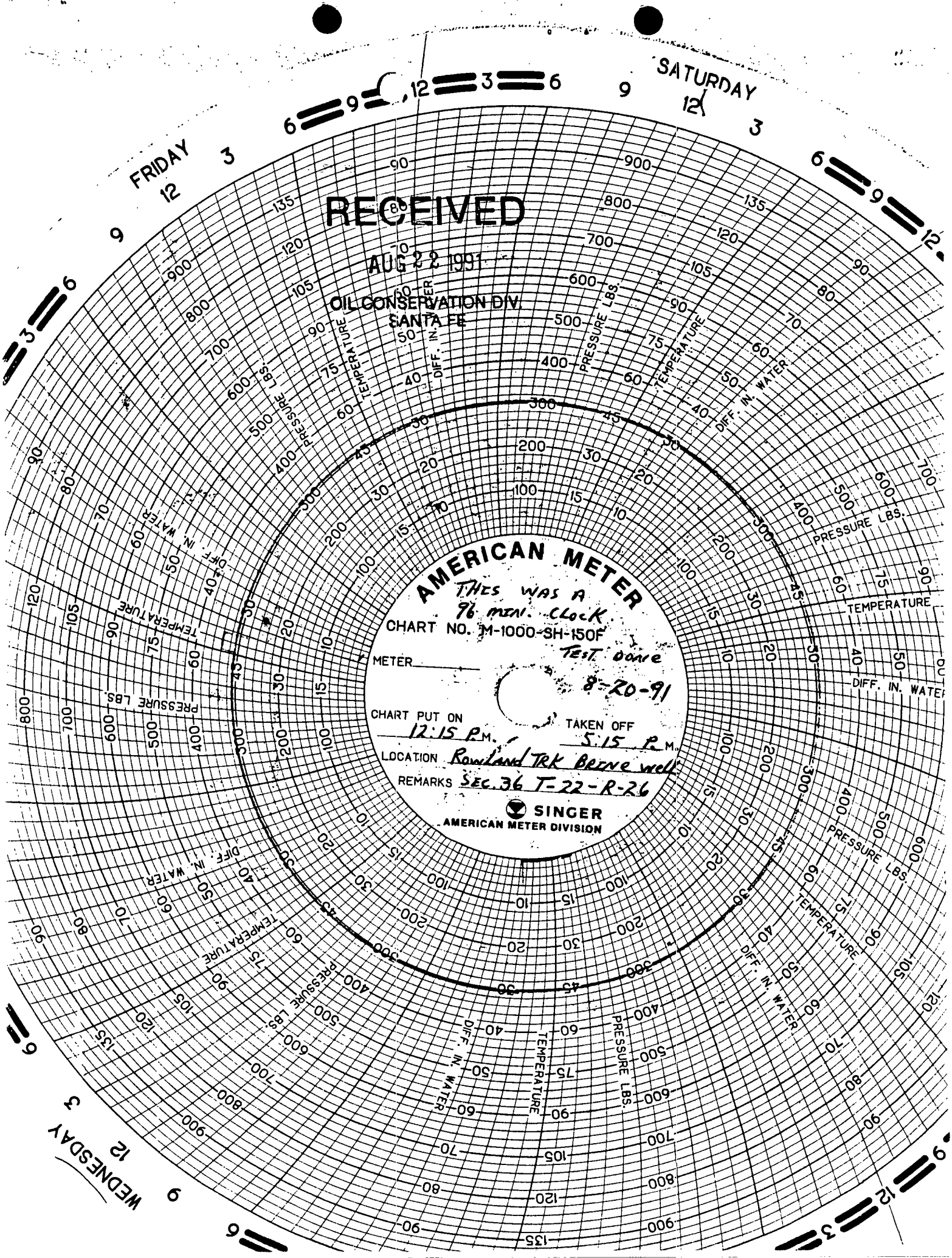
ND:sr

ROWLAND TRUCKING
BRINE WELL.



ENCLOSURE #3

Initials EJH


RECEIVED
AUG 22 1991
OIL CONSERVATION DIV.
SANTA FE
AMERICAN METER
THIS WAS A
96 HR. CLOCK
CHART NO. M-1000-SH-150F
TEST DONE
METER
8-20-91
CHART PUT ON
12:15 P.M.
TAKEN OFF
5:15 P.M.
LOCATION Rowland TRK Brine well
REMARKS Sec. 36 T-22-R-26
SINGER
AMERICAN METER DIVISION
FRIDAY
SATURDAY
WEDNESDAY
PRESSURE LBS.
TEMPERATURE
DIFF. IN. WATER

Simon
Environmental
Services

401 West Main, Suite 400
Norman, Oklahoma 73069

Telephone (405) 329-8300
Fax (405) 366-8722

September 25, 1991

Mr. Wayne Price
Staff Engineer
Unichem International Inc.
P.O. Box 1499
Hobbs, New Mexico 88241

Re: Carlsbad Brine Well Fracture Pressure
Simon Environmental Services Project No. 502-939-01

Dear Mr. Price:

Per your request we have estimated the formation fracture pressure for the Carlsbad brine well. The following estimation equation was derived in our letter of June 3, 1991 regarding formation fracture pressure of the Eunice brine well.

$$P_f/z \cong (S_z/z + 2p/z)/3$$

This equation is also known as the Hubbert and Willis (1957) equation for minimum fracture pressure gradient estimation.

For the Carlsbad Brine Well:

$S_z/z \cong 1.0$ psi/ft (overburden gradient)
$p/z = .46$ psi/ft (original formation pressure gradient)
$z = 710$ ft

Therefore,

$$P_f/710 \cong (1.0 + 2(.46))/3$$

$$P_f/710 \cong .64$$

$$P_f \cong 454 \text{ psi}$$

Hydrostatic gradient of injected fluid = .433 psi/ft.

Surface fracture pressure = 454 psi - (710 ft x .433 psi/ft)
= 147 psi

Friction pressure loss ~ 0 psi

Total surface fracture pressure = 147 psi

Maximum injection pressure = 110 psi

ENCLOSURE #2

The calculated formation fracture pressure for the Carlsbad brine well is 454 psi. The surface fracture pressure, including friction pressure losses, is 147 psi. The maximum injection pressure is 110 psi. This gives a 37 psi (25%) safety factor for the Carlsbad brine well.

In work conducted by F.D. Hansen on the quasi-static strength and deformational characteristics of salt, he determined that at increased confining pressures and moderate temperature increases salt tends to flow plastically rather than fracture. Therefore in the Carlsbad brine well, it is probable that if injection pressure happens to increase up to the fracture pressure, the salt is more likely to flow plastically rather than fracture. With a safety factor of 37 psi and the tendency of salt to flow plastically, the Carlsbad brine well poses insignificant to zero risk of fracturing.

Please contact me if you have any questions.

Sincerely,

J.L. Gray
Project Manager

/kh

cc: Talib Syed
Sheila Baber

References

1. Hubbert, M.K. and Willis, D.G., "Mechanics of Hydraulic Fracturing." Transactions AIME, Vol. 210, 1957, pp. 153-166.

simon
Environmental Services

401 West Main, Suite 400
Norman, Oklahoma 73069

Telephone (405) 329-8300
Fax (405) 366-8722

September 25, 1991

Mr. Wayne Price
Staff Engineer
Regulatory/Environmental Affairs
Unichem International Inc.
P.O. Box 1499
Hobbs, New Mexico 88241

Subject: Carlsbad Brine Well Collapse and Subsidence Investigation
Simon Environmental Services Project No. 502-939-01

Dear Mr. Price:

Per your request, we have investigated the collapse/subsidence potential at the Carlsbad brine well. Based on that investigation, the likelihood that collapse and/or subsidence will occur due to future brine extraction at the Carlsbad well is low.

Our conclusion is based upon application of the model developed by Lee Wilson and Associates, Inc. in their report "UIC Evaluation of Salt Extraction Wells in New Mexico" which was prepared for the New Mexico Oil Conservation Division, Department of Energy and Minerals in 1982. The approach developed in this report is similar to that employed by us in reviews of solution mining permit applications for EPA Regions II and VIII.

In regard to potential collapse/subsidence, the Lee Wilson report concludes that "cavity stability is 'relatively high' if the cavity has at least 50 feet of overburden per million cubic feet of capacity." Based on actual and estimated brine production since 1976 (see attached), approximately 3,378,000 cubic feet of salt has been dissolved. Given the well depth of 710 feet, the depth/cavity volume ratio is 210 feet per million cubic feet, which is approximately 4 times greater than 50 feet per million cubic feet.

At the average cavity growth rate of 225,000 cubic feet per year the critical ratio of 50 feet per million cubic feet will not be reached for approximately 50 years. Presently, monitoring cavity growth while keeping the cavity full of fluid is recommended to minimize the chance of collapse/subsidence. Contingency and remedial plans, while not likely to be necessary, are always a good idea.

Enclosure #2

Thank you for having us look into this for you. Please contact me if you have any questions or additional needs.

Sincerely,

J.L. Gray
Project Manager

/ns

cc: Talib Syed
Sheila Baber

CARLSBAD BRINE WELL

	Time	Brine Sales	Sales Rate	Cavity Increase*
1	1976-81 (yrs.)	1,946,441 bbls	390,000/year	1,783,000 ft^3
2	1982-86 (yrs.)	1,250,000 bbls ??	250,000/year??	1,145,000 ft^3 ??
3	1987-91 (yrs.)	490,982	110,000/year	450,000 ft^3
	TOTAL			**3,378,000 ft^3**
Depth = 710' Depth/Volume Ratio = 210 ft. per million ft^3				
* Based on net change in TDS of 350,000 mg/L from Lee Wilson report. 1 bbl of brine production = .9157 ft^3 of salt. ?? Average of time periods 1 and 3.				

AMERICAN METER

THIS WAS A
96 MIN. CLOCK

CHART NO. M-1000-SH-150F

Test Done

METER

CHART PUT ON 12:15 P.M.

TAKEN OFF 5:15 P.M.

LOCATION Rowland TRK Bosque well

REMARKS Sec. 36 T-22-R-26

SINGER
AMERICAN METER DIVISION

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

June 14, 1991

Mr. William J. Lemay, Director
New Mexico Energy, Minerals and
Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

The U.S. Fish and Wildlife Service (Service) has reviewed the Public Notice dated May 13, 1991, regarding the effects of granting State of New Mexico groundwater discharge permits on fish, shellfish, and wildlife resources in New Mexico.

The Service has determined that there are no wetlands or other environmentally sensitive habitats that will be adversely affected by the following activities. However, the Service would appreciate information regarding the method of disposal for the extracted brine.

(BW-19) - Unichem International Incorporated, Hobbs, New Mexico

June 24, 1991
Explained brine extraction process to Richard Roy ie. no disposal of produced brine, used for drilling fluids. Said OK.
Km. Brown

If you have any questions, please call Richard Roy at (505) 883-7877.

Sincerely,

Jennifer Fowler-Propst
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals and Natural Resources Department, Forestry and Resources Conservation Division, Santa Fe, New Mexico
Regional Administrator, U.S. Environmental Protection Agency, Dallas, Texas
Regional Director, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, Albuquerque, New Mexico

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

June 19, 1991

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

CERTIFIED MAIL
RETURN RECEIPT NO. P-327-278-192

Mr. Richard Brakey, Vice President
Rowland Trucking
P. O. Box 1499
Hobbs, New Mexico 88240

RE: Discharge Plan BW-19 (formerly DP-372)
Unichem Carlsbad Brine Station
Eddy County, New Mexico

Dear Mr. Brakey:

The Oil Conservation Division (OCD) has received and is in the process of reviewing the above referenced discharge plan renewal application. The following comments and requests for additional information are based on review of the application, dated May 8, 1991.

1. **Mechanical Integrity Testing**

In your Discharge Plan Permit Submittal #2 dated December 3, 1986, Unichem committed to performing an annual mechanical integrity test on the brine well and running a cement bond log at least every five years. The OCD does not require that a cement bond be run. However, pursuant to revised OCD guidelines for discharge plans at brine facilities, all wells must be pressure tested (open-hole) to 500 psi for 4 hours on an annual basis. A pressure test isolating the casing from the formation using either a bridge plug or packer must be conducted at least once every 5 years or during well workovers.

The last mechanical integrity test that the OCD has on file was an open hole test performed on March 3, 1988. The results from a current pressure test will be required prior to the approval of any brine facility discharge plan application or renewal. If the immediate test is performed using the open-hole method then a pressure test isolating the casing from the formation will be required within the next 1 1/2 years. An OCD representative must be on site to witness all pressure tests. Submit a proposal for testing and ensuring the mechanical integrity of the well.

Also, submit information on any buried brine pipelines including age and material of the lines. Propose a plan to ensure the mechanical integrity of all underground brine pipelines.

2. **Transfer of Commitment**

Notwithstanding the transfer of jurisdiction of brine wells to OCD, all prior commitments to EID concerning reporting and notification remain in effect. This includes your quarterly report listings, by month, of volume of fluids injected and produced, and your brine analyses. Note that all unauthorized discharges (ie. major leaks and spills), need to be reported to the OCD within 48 hours of the event (WQCC Rule 5-208).

3. **Collapse and Subsidence**

Because of the relatively thin amounts of overburden rock at your location, the OCD is concerned over the potential for collapse and/or subsidence of the strata overlying the salt cavity that Unichem has created. Submit evidence that future brine extraction operations will not significantly increase the potential for collapse and/or subsidence. Include details on collapse/subsidence prevention, monitoring, contingency plans, and remedial actions.

4. **Surface Facilities**

The records that the OCD has on file detailing the surface facilities at the Unichem Carlsbad Brine Station are unclear. Provide answers to the following questions and submit a diagram identifying all current surface facilities. How many brine tanks are currently in operation? Are your brine tanks valved together? Is the berm around your brine tanks large enough to hold 1 1/3 times the volume of your largest tank or all interconnected tanks? Is your new 500 barrel brine overflow tank bermed separately or is it located within the main brine tank battery berm? Is your old cement brine storage pit still on location and utilized? Is you brine truck loading area paved? Do you have the capacity to load fresh water from this facility, and if so, do you?

5. **Spill Collection System**

Review of your spill collection system identified two sunken drain back collection sumps. The OCD requires all new underground tanks with standing fluids have positive leak detection. All present underground tanks (i.e. sumps) that do not have leak detection are required to be cleaned out and visually inspected on an annual basis. Submit to the OCD a schedule for annual inspection of your current underground tanks.

6. **Plugging Bond**

The OCD requires a plugging bond on all wells pursuant to OCD Rule 101. Your $50,000 blanket plugging bond is on the old OCD bond form which does not include brine wells. Your must either have your blanket bond transferred onto the new form, or obtain an additional single well plugging bond. Enclosed are the correct forms for both blanket and single well plugging bonds.

7. **Plugging and Closure Plan**

The revised OCD guidelines for discharge plans at brine facilities require a general closure plan for actions to be taken when the facility is inactive. Submit a proposal for closure which commits to those actions in the guidelines, Section VI.F.5. The OCD also requires a plan for plugging and abandonment of the well that meets the requirements of WQCC Regulations Section 5-209. Submit a plugging plan for the Carlsbad Brine Well.

Submission of the above requested information will allow the review of your application to continue. Enclosed is a revised (May, 1991) copy of the guidelines for discharge plans at brine facilities. If you have any questions, please do not hesitate to call me at (505) 827-5824.

Sincerely,

Kathy M. Brown

Kathy M. Brown
Environmental Geologist

KMB/sl

Enclosures

cc: OCD Artesia Office

Affidavit of Publication

No. 13603

STATE OF NEW MEXICO,

County of Eddy:

Gary D. Scott being duly sworn, says: That he is the Publisher of The Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 consecutive days weeks on the same day as follows:

First Publication July 12, 1991

Second Publication

Third Publication

Fourth Publication

Gary D. Scott

Subscribed and sworn to before me this 12th day of July 19 91

Barbara Ann Boaz
Notary Public, Eddy County, New Mexico

My Commission expires September 23, 1991

LEGAL NOTICE

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND
NATURAL RESOURCES
DEPARTMENT
OIL CONSERVATION
DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico, 87504-2088, Telephone (505) 827-5800:

(BW-15) B&E Incorporated, Phil Withrow, P.O. Box 756, Carlsbad, New Mexico, 88220, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The B&E Loco Hills Brine Station is located in the NW/4, SE/4, Section 24, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico. Fresh Water is injected to an approximate depth of 456 feet and brine is extracted with an average total dissolved solids concentration of about 300,000 mg/1. Groundwater most likely to be affected by an accidental discharge is at a depth exceeding 225 feet with estimated total dissolved solids concentrations ranging from 600 mg/1 to 6000 mg/1 over a 5 mile radius. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 1st day of July, 1991. To be published on or before July 17, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION

s-William J. LeMay
WILLIAM J. LEMAY,
Director

SEAL

Published in the Artesia Daily Press, Artesia, N.M. July 12, 1991.

Legal 13603

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(BW-19) Unichem International Incorporated, Richard Brakey, Vice President, PO Box 1499, Hobbs, New Mexico 88240, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Carlsbad Brine Station is located in the SE/4, NE/4, Section 36, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico. Fresh water is injected to an approximate depth of 710 feet and brine is extracted with an average total dissolved solids content of 300,000 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 150 feet with a total dissolved solids concentration of about 1800 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 13th day of May, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
s/WILLIAM J. LEMAY, Director

Journal: May 21, 1991

STATE OF NEW MEXICO
County of Bernalillo ss

Thomas J. Smithson being duly sworn declares and says that he is National Advertising manager of the **Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chaper 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for 1 times, the first publication being on the 21 day of May, 1991, and the subsequent consecutive publications on ....., 1991.

Thomas J. Smithson

Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, this 21 day of May, 1991.

PRICE $21.99

Statement to come at end of month.

ACCOUNT NUMBER C81184

IAL SEAL
rodette Ortiz
E ORTIZ
NEW MEXICO
ECRETARY OF STATE
12-18-93

CLA-22-A (R-12/91)

NOTICE OF PUBLICATION

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P. O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(BW-19) - Unichem International Incorporated, Richard Brakey, Vice President, P. O. Box 1499, Hobbs, New Mexico, 88240, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Carlsbad Brine Station is located in the SE/4, NE/4, Section 36, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico. Fresh water is injected to an approximate depth of 710 feet and brine is extracted with an average total dissolved solids content of 300,000 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 150 feet with a total dissolved solids concentration of about 1800 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 13th day of May, 1991. To be published on or before May 22, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY, Director

S E A L

Affidavit of Publication

No. 13538

STATE OF NEW MEXICO,

County of Eddy:

Gary D. Scott being duly sworn, says: That he is the Publisher of The Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 consecutive days weeks on the same day as follows:

First Publication May 17, 1991

Second Publication

Third Publication

Fourth Publication

Gary D. Scott

Subscribed and sworn to before me this 17th day of May 19 91

Barbara Ann Boone

Notary Public, Eddy County, New Mexico

My Commission expires September 23, 1991

Copy of Publication

LEGAL NOTICE

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
s-William J. LeMay
WILLIAM J. LEMAY,
Director

SEAL

Published in the Artesia Daily Press, Artesia, N.M. May 17, 1991.

Legal 13538

BW-19 (DP-372)

INVENTORY OF SOLUTION MINING WELLS -- OIL CONSERVATION DIVISION, 1991

I. OPERATOR/LOCATION INFORMATION

Operator: Unichem International - Rowland Trucking (Vic Pres: Richard Braky; Wayne Price Staff Engineer)

Address: 707 N. Leech, P.O. Box 1499

Hobbs, NM 88240 Phone: 393-7751

Facility Carlsbad Brine Station

T. 22S R. 26E Sec. 36 ; SE 1/4 of NE 1/4 H

County: Eddy (x 4 miles South of Carlsbad)

Purpose of well (brine supply, LPG storage, potash dissolution)

Brine supply

II. DRILLING/SITING INFORMATION

Contractor: Musselwhite Water Well Drilling Company

Date drilling started 7-13-76 Date drilling completed 8-20-76

Drilling method Cable tool

Ground Surface Elevation 3228' - PI (3284' - DOT report) KB Elevation 3334' KB (50')

Total depth of hole 930'

Attach schematic of well, include open hole interval, perforations, etc.

Type of drilling fluid N/A

Describe all casing tests performed to date Bumped plug & pressured up to 1000 psi: Aug 4, 1986 - 180 psi for 8 hours.

March 3, 1988 - held 180 psi for 2 hours.

CASING, TUBING AND CEMENTING RECORD

From	To	Size of Hole	Size of Casing	Weight per Foot	Sacks of Cement	Estimated Top of cmt.
0'	350'	13"	8 5/8"	32#	225 Class C	Surface
0'	710'	7 7/8"	5 1/2"	14#	150 Class C	Surface
0'	926'	2	2 3/8"		No packer, not lined	
	910		2 1/2"			

Is site within ~~1/2~~ 1/4 mile of another well? Is so, explain. NO

Type of well-head equipment:

Comments (include problems encountered while drilling, loss of circulation, deviation of hole from vertical, centralizers, used, tools lost or stuck, fracturing techniques used, etc.) NO problems drilling, no loss circulation, no tools lost. Initially drilled as freshwater supply well. No water encountered so completed as brine well.

III. FORMATION INFORMATION

Formation Record

From	To	Thickness	Formation (name, description)	Driller's Log
0'-210'	210'	210'	Red Bed & Shale	0-10' Caliche
210'-240'	240'	30'	Anhydrite & Shale	10-350' Red Bed & Anh,
240'-715'	715'	475'	Anhydrite - Perm Rustler	350-710' Anhy & Shale
715' to TD (930')	TD	215'	Salt - Perm Salado	710'-930' Salt & Anh,

Conflicting formation/lithology tops in file.

Logs (specify type) No logs ran

Identify ~~where logs~~ FACILITY are on file located on old Federal Government (WW II) ammunition storage depot. Storage depot reinforced & lined with gunnite for brine storage.

IV. AQUIFER INFORMATION

Aquifers in Immediate Area

From	To	Aquifer Description	Amount of Water entering hole	Quality of Water
Mr. Spencer has 2 irrigation wells 1½ mi NE of site, 200-220'.				
1				

Note: If water quality analysis are available please attach.*

Source of aquifer description _____

Source of water level and quality data EID Pub. Not - DTW = 150' & 2500 ppm TDS

Depth water first encountered during drilling None encountered to TD (910')

Direction of water gradient In Pecos river drainage System, west of river
Surface drainage to east

Explain any evidence of water contamination EID required gw contamination study
Shallow holes (1'-5') had btw 23,600 & 39,000 ppm Cl^- except 1 to SW had 260 ppm.
Deep samples had 600 ppm Cl^- @ 30'-33' next to old storage pit.

V. PRODUCTION/BRINE STORAGE INFORMATION

Method of production (describe fully) Early operations produced out annulus Avg. pressure 90 psi, Max pressure 180 psi. Pump water from City Supply to brine well down annulus, out tubing, to brine storage tanks (4-500 bbl) to trucks via 2 loading valves.

Was well used previously for some purpose other than brine supply no

If so, explain

Use of brine Drilling & production

Source of injection water (be specific) City of Carlsbad injection line.

Date of first production August 31 1976

Volume of brine produced to date

Weight of salt removed to date

Calculated size and shape of cavity to date

VI. ABANDONMENT/PLUGGING RECORDS

Date well abandoned/plugged N/A

Reason for well abandonment or plugging N/A

Method of plugging or proposed plugging (describe fully, include amounts of cement, etc. top, plug type, depth, etc.) None

List all conduits in the area of review. Include completion and plugging records.

None

VII. CHRONOLOGY OF EVENTS

8-76: Well drilled & production begins

9-20-82: DP submitted by Unichem

12-18-82: OCD approves DP GWB-12 expires (12-18-87)

11-18-85: EID requires DP modification to address facility violations

12-11-85: EID grant Unichem 60 day extension if submit gw. cont. inv. plans

1-16-86: Unichem submits plan for investigation of extent of gw contamination

1-23-86: EID's unacceptance of Unichem's 1-16-86 submittal

1-28-86: Unichem submits detailed gw cont. invest.

3-18-86: Unichem 1st submittal of DP Parts 3 & 5

6-2-86: EID's response to Unichem DP modification (3-18-86). Need more info

10-6-86: Unichem's DP submittal for Carlsbad Station
Remove old brine storage pit, install new frac tanks (4-500 bbl) w/ berm. Spill collection system (30 mil)

12-3-86: Unichem Submittal #2 of DP

12-9-86: EID approves DP 372 renewal & modification (exp. 12-19-91)

2-16-87 Unichem submits soil analyses (deep 30') & drainback system picture

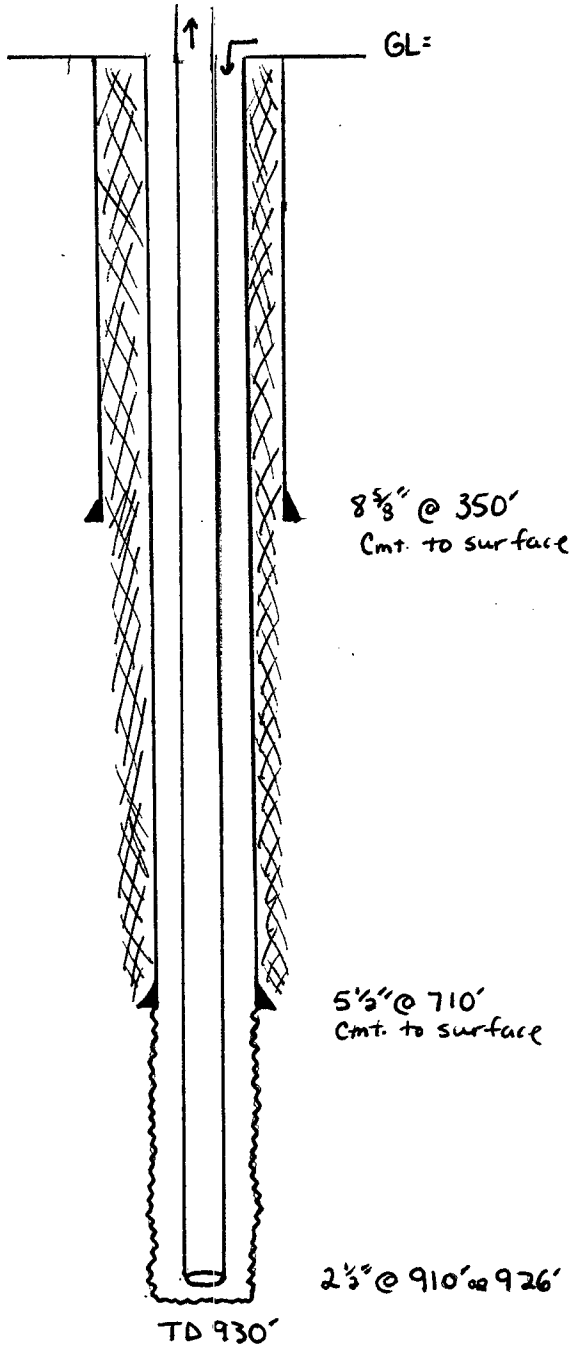
11-30-87 EID inspection ID's significant brine spillage & improper berm

2-18-88 Unichem requests deletion of soil monitoring from DP

5-8-91 Unichem submits DP renewal application

CITY OF CARLSBAD #1

T22S R26E Sec. 36



0
10 Caliche

Red Beds & Shale

100

200

210
240 Anhydrite & Shale

300

400

Anhydrite

500

600

700

715

Salt

800

900

1000

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

May 8, 1991

Mr. David G. Boyer
310 Old Santa Fe Trail, Rm 205
Land Office Building
Santa Fe, NM 87501

Dear Mr. Boyer:

Unichem Carlsbad Brine Station
Discharge Plan #372

Please accept this letter as an application for discharge plan renewal for the Carlsbad Brine Station, which includes an In-Situ extraction well for producing brine water for use in oilfield activities in the Carlsbad, New Mexico area.

Please note, you have on file all previously submitted materials, which include detailed information that is required by the New Mexico Water Quality Control Commission (WQCC) regulations. Also you have all the latest monitoring and reporting forms submitted to date.

As allowed under New Mexico WQCC Regulations, more specific, Port S-101G, please accept this as our discharge plan. We are readily available to provide New Mexico Oil Conservation Division with information that is required to complete our application for renewal.

One 500 barrel steel welded tank has been added for overflow purpose for an indefinite time period, and is not used for anything else. It has no affect on any operations of the well, other than added safety.

There have been no other changes made within our operations and therefore no modifications are necessary in our current discharge plan.

Sincerely,

UNICHEM INTERNATIONAL INC.

N. D. Denton
Safety/Environmental Coordinator
Rowland Trucking Company

jd

I certify under penalty of law that I have personally examined and am familiar with the information submitted in those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Richard Brakey
Vice President -
Rowland Trucking Operations

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

1190 St. Francis Drive
Santa Fe, New Mexico 87503

ENVIRONMENTAL IMPROVEMENT DIVISION
Carlsbad Field Office
406 N. Guadalupe St.
Carlsbad, N.M. 88220
(505) 885-9023

GARREY CARRUTHERS
Governor

CARLA L. MUTH
Secretary

MICHAEL J. BURKHART
Deputy Secretary

MEMORANDUM

DATE: December 28, 1988

TO: John Parker, Ground Water Section, Santa Fe

FROM: Roy L. Dawdy, Environmentalist, Carlsbad

SUBJECT: Rowland Trucking Spill

About 8:15 a.m. on December 27, 1988, a report was received in the Carlsbad E.I.D. office concerning a tanker truck that overturned early Saturday morning, December 24, 1988. The accident occurred at the intersection of Hwy. 62-180 and the north entrance road to W.I.P.P. and was reported by Mr. Jere Galle of the Department of Energy. I talked to Mr. Louie Medina, local state policeman and was informed that the liquid spilled from the accident was some mixture of crude oil, diesel oil and drilling mud.

I called Mr. Mike Williams of the Oil Conservation Division in Artesia. As a result of this call Mr. Darrell Moore, District Geologist for OCD, and I drove to the site to meet representatives of Rowland Trucking. When we reached the site we saw quite a large area of pavement, ditch and other ground area that had been covered with the material from the spill. The state highway department had spent several hours on Saturday covering the spill with sand and subsequently sweeping the sand and absorbed liquid into the bar ditch. At the time of our survey there was some liquid in small puddles over an area of approximately 1000 square feet.

Soon after our arrival at the site several workers from the state highway department arrived to continue clean-up of the paved area. The foreman of the crew was very concerned about the rapid deterioration of the pavement which had been contacted by the spilled material.

Approximately 30 minutes after Mr. Moore and I arrived at the site three representatives of Rowland Trucking arrived from their Hobbs office. Representing Rowland were: Mr. Wayne Price, Staff Engineer for Unichem International, parent company of Rowland; Mr. Pete Turner and Charles Root, both of the Hobbs office of Rowland. We were informed that the material spilled from the tanker was a

diesel emulsion drilling mud with chemical additives. Mr. Moore and Mr. Price felt that the spill was under the jurisdiction of OCD and agreed to file the necessary reports and do the necessary clean-up as recommended by OCD. I expressed a concern that the clean-up be such that the environment be protected.

Later on December 27, Mr. Gary McCaslin spoke with Mr. David G. Boyer, hydrologist for OCD and was informed that agreement had been made with Unichem that all contaminated soil be removed and hauled to an approved disposal site in Eunice. I revisited the incident site on December 28, 1988 and witnessed the soil removal underway. At that time I met and spoke with Mr. Wes Johnston of Unichem. New fill was being used to replace the contaminated soil which had been removed.

RLD/are

xc: G. McCaslin, EID, Roswell
File

ENVIRONMENTAL IMPROVEMENT DIVISION

MEMORANDUM OF COMPLAINT

Carlsbad FIELD OFFICE

COMPLAINANT NAME: Mr. Jore Galle TELEPHONE: 887-8100

ADDRESS: W.I.P.P. Site CITY:

SOURCE (RESPONSIBLE PARTY): NAME: Rowland Trucking TELEPHONE:

ADDRESS: Hobbs + Carlsbad CITY:

PROGRAM * AIR QUALITY ____; FOOD/MILK ____; VECTOR ____; *HAZARDOUS WASTE ____;

LIQUID WASTE ____; *NOISE ____; *OHS ____; *RADIATION ____; SOLID WASTE ____; SWIMMING POOL ____; *WATER POLLUTION ✓; WATER SUPPLY ____;

NATURE OF COMPLAINT: Rowland tanker overturned at intersection of hwy 62-180 + North intrance to W.I.P.P.

LOCATION:

COMPLAINT TAKEN BY: Mr. Burt DATE: 12/27/88

INVESTIGATION REPORT:

Investigated by Roy Dawdy of E.I.D. & Mr. Darrel Moore of OCD. Large spill of liquid (diesel emulsion drilling mud) at intersection

BY: Roy L Dawdy DATE: 12/27/88

ACTION TAKEN: Unichem (Dessant Company of Rowland) agreed to clean-up to OCD's requirements

BY: Roy L Dawdy DATE: 12/27/88

FOLLOW UP: Contaminated soil removed & transported to approved disposal site in Eunice. New fill brought in to replace contaminated soil

SATISFACTORY CORRECTION OF PROBLEM VERIFIED BY: Roy Dawdy DATE 12/28/88

* CONTACT APPROPRIATE CENTRAL OFFICE PERSONNEL FOR SPECIFIC INSTRUCTIONS PRIOR TO INVESTIGATING THE COMPLAINT.

OPTIONAL USE FORM EID-SP/LW 001

Memo attached.

☒ Telephone ☐ Personal | Time 2:30 | Date 12/27/88

Originating Party	Other Parties
Wayne Price - Unichem Int.	John Parker - EID WRS

Subject
Rowland Trucking spill of ~100 BBL of drilling mud.

Discussion
Wayne called to tell me that there had been a spill of ~100 BBL (4,500 gal) of drilling fluid on Dec. 24 at the intersection of Hwy 62-180 and main entrance to WIPP facility. The accident spill occurred when the truck rolled over. Wayne stated that the spill had been localized in a 30×5 yd trench. The drilling mud contained oil emulsion (diesel-oil-water) and is considered non-hazardous under RCRA. He further stated that the spill would be removed and taken to an OCD approved disposal facility.

Conclusions or Agreements
I thanked Wayne for reporting the spill to us and informed him that it was my belief that due to the location the incident was exempt from the WQCC regulations. (No water < 10,000 mg/l TDS) - but to send us a report any way.

Distribution
Kevin Lambert & File

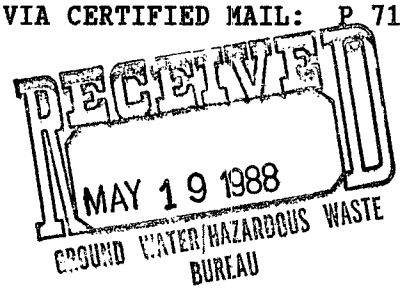
Signed John W Parker

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

May 17, 1988

VIA CERTIFIED MAIL: P 713 502 747



Mr. Kevin A. Lambert, Hydrologist
Ground Water & Hazardous Waste Bureau
State of New Mexico
Environmental Improvement Division
P.O. Box 968, Runnels Building
Santa Fe, NM 87504-0968

SUBJECT: CARLSBAD BRINE STATION

Dear Kevin,

The following documents on the above-referenced brine station are submitted for your information:

(1) Year-end results (1987) for fresh water to brine production comparison;

(2) Year-end (1987) water analysis, dated 23 February 1988;

(3) First quarter results for fresh water to brine production comparison;

(4) First quarter water analysis, dated 20 April 1988.

Please do not hesitate to contact me if you have any questions about the enclosed information.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

LWP:mms

Enclosures

cc: Richard Brakey, Vice President - Rowland Trucking
Ed Hesselschwerdt, Carlsbad Yard Manager - Rowland Trucking

FORM P-505 (GREEN) P-505-B (BUFF) (1-83) wilmer service line LITHO IN U.S.A.

	INITIALS	DATE	REFERENCE
PREPARED BY			
CHECKED BY			
APPROVED BY			

Carlsbad Brine Well

Year-End Results (1987)
Fresh Water to Brine
Production Comparison

Fresh Water to Brine Production Comparesson 1987

LINE No.			(1) Meter # 01-02350-01 gallons	(2) Meter # 01-20475-01 gallons	(3) Meter # 01-20400-1 gallons	(4) Total Fresh BBls	(5) Brine Sales BBls	LINE No.
1			—	180000	13000	4595.24	9800.00	1
2			33000	402000	96000	12642.86	4800.00	2
3			60000	149000	36000	5833.33	6610.00	3
4			67000	165000	39000	645238	5550.00	4
5			40000	101000	23000	3904.76	3125.00	5
6			39000	97000	23000	3785.71	12875.00	6
7			101000	255000	61000	9928.57	8395.00	7
8			91000	228000	53000	8857.14	16055.00	8
9			173000	—	104000	6595.24	9910.00	9
10			98000	252000	60000	9761.90	16655.00	10
11			148000	380000	90000	14714.29	7800.00	11
12			111000	275000	68000	10809.52	6770.00	12
13								13
14								14
15								15
16			961,000 gal	2,484,000 gal	666,000 gal	97880.95	108345.00	16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : Rowland Trucking
Date : 02-23-1988
Location: Carlsbad Brine Well - Wellhead (on 02-22-1988)

	Sample 1
Specific Gravity:	1.218
Total Dissolved Solids:	305489
pH:	6.46
IONIC STRENGTH:	5.310

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	84.0	1680
Magnesium	(Mg^{+2})	16.0	194
Sodium	(Na^{+1})	5120	118000
Iron (total)	(Fe^{+2})	0.086	2.40
ANIONS:			
Bicarbonate	(HCO_3^{-1})	3.00	183
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	56.2	2700
Chloride	(Cl^{-1})	5160	183000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	1.1	-25

Potassium - 69.5 ppm

Nitrates - 10.56 mg/l (2.4 mg/l as nitrogen)

FORM P-505 (GREEN) P-505-B (BUFF) (1-83)

wilmer — LITHO IN U.S.A.

	INITIALS	DATE	REFERENCE
PREPARED BY			
CHECKED BY			
APPROVED BY			

First Quarter Results (1988)
Fresh Water to Brine
Production Comparison

City Of Carlsbad
Brine Wells

LINE NO		(1) Jan	(2) Feb	(3) March	(4) Total	(5) Total BBLS
1	01203500 1	64000	94000	74000	232,000	5523.81
2						
3						
4	0120400-01	39000	58000	45000	142,000	3380.96
5						
6						
7	01204750 1	160,000	237,000	188,000	585000	13928.58
8						
9						
10						
11	Brine Sales -	6940 BBLS	5925 BBLS	6090 BBLS		18955.00
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

W A T E R A N A L Y S I S

ALL RESULTS EXPRESSED IN PPM UNLESS OTHERWISE NOTED

CLIENT NAME: WAYNE PRICE
FACILITY: CARLSBAD BRINE WELL
LOCATION: CARLSBAD, NM.

DATE: 05/05/88
SAMPLE DATE: 04/20/88
DATE ANALYZED: 05/02/88

SAMPLE IDENTIFICATION :		CARLSBAD BRINE WELL
pH		6.25
PHENO ALKALINITY	(CaCO3)	NIL
TOTAL ALKALINITY	(CaCO3)	72
BICARBONATE	(HCO3)	87.8
CARBONATE	(CO3)	NIL
HYDROXIDE	(OH)	NIL
TOTAL HARDNESS	(CaCO3)	3840
CALCIUM	(Ca)	1480.0
CALCIUM	(CaCO3)	3700
MAGNESIUM	(Mg)	33.6
MAGNESIUM	(CaCO3)	140
CHLORIDE	(Cl)	185000
CHROMATE	(CrO4)	***
SULFATE	(SO4)	5250
TOTAL PHOSPHATE	(PO4)	***
ORTHO PHOSPHATE	(PO4)	***
POLY PHOSPHATE	(PO4)	***
SILICA	(SiO2)	***
SILICA	(CaCO3)	***
SPECIFIC CONDUCTANCE	(mmhos)	176800
IRON	(Fe)	1.02
COPPER	(Cu)	***
CALCULATED :		
TOTAL DISSOLVED SOLIDS		312493
SODIUM	(Na)	120642

ANALYZED BY: _____ (HOBBS LAB)

APPROVED BY: _____

*** INDICATES THAT THIS TEST WAS NOT RUN

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

W A T E R A N A L Y S I S

ALL RESULTS EXPRESSED IN PPM UNLESS OTHERWISE NOTED

CLIENT NAME: WAYNE PRICE
FACILITY: CARLSBAD BRINE WELL
LOCATION: CARLSBAD, NM.

DATE: 05/05/88
SAMPLE DATE: 04/20/88
DATE ANALYZED: 05/02/88

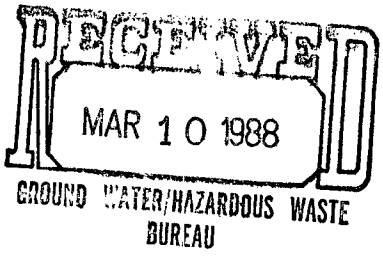
SAMPLE IDENTIFICATION :	CARLSBAD BRINE WELL
TOTAL DISSOLVED SOLIDS	300.2 mg/l
POTASSIUM (as K)	190 mg/l
NITRATES (as NO3)	37.4 mg/l
NITRATES (as N)	8.5 mg/l

*** INDICATES THAT THIS TEST WAS NOT RUN

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

March 9, 1988



Mr. John Parker
Groundwater Bureau
Environmental Improvement
Division
Health & Environment Department
P. O. Box 968
Santa Fe, New Mexico 87504-0968

Dear John:

Enclosed please find a copy of the latest Mechanical Integrity Test for the Carlsbad Brine Well.

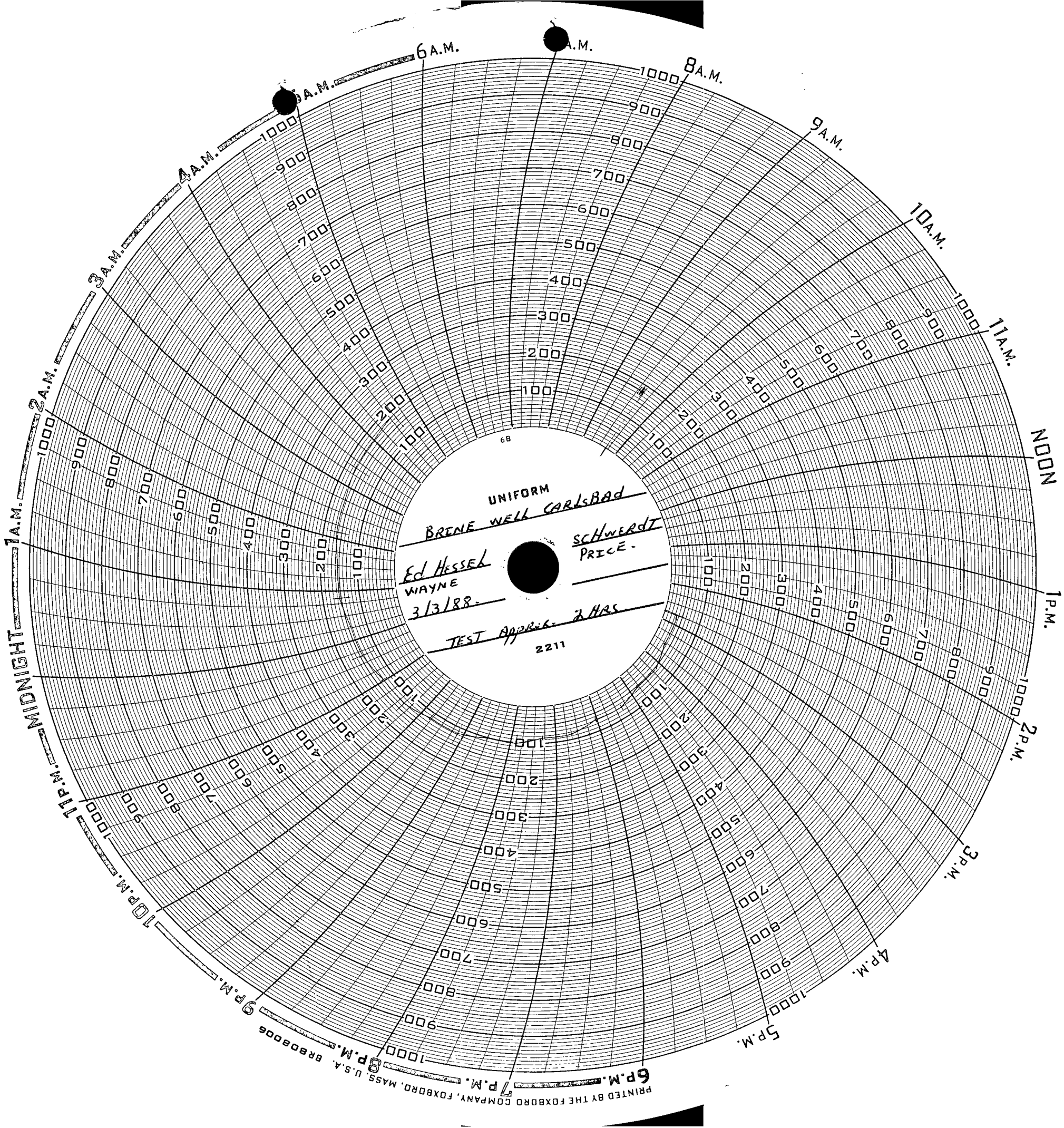
Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

LWP:jmb

Enclosure


UNIFORM
BRINE WELL CARLSBAD
Ed HESSEL
WAYNE
3/3/88
SCHWERDT
PRICE
TEST APPROX. 2 HRS.
2211
68
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNIGHT
100
200
300
400
500
600
700
800
900
1000
PRINTED BY THE FOXBORO COMPANY, FOXBORO, MASS. U.S.A. BR80S006

No. of Samples	Ion
	Na
	K
	Ca
	Mg
	Cl
	HCO3
	CO3
	SO4
	TDS
////////	////////////
	NO3+ NO2
	NH3
	kjeld N
////////	////////////
	As
	Ba
	Cd
	CN
	Cr
	F
	Pb
	Hg
	Se
	Ag
	U
	V
	Ra 226
	Ra 228
////////	////////////
	Cu
	Fe
	Mn
	Phenols
	Zn
////////	////////////
	Al
	B
	Co
	Mo
	Ni
////////	////////////
	pH
	Conduct.

FIELD TRIP REPORT
GROUND WATER SECTION

SLD USER CODES
Ground Water: 59300
NO_3, HC, & Toxics: 59600
UIC: 59500

County Eddy

FACILITY VISITED
Name of Facility: Unichem Carlsbad
Location: Carlsbad

Discharge Plan Number: DP-372
Type of Operation: Brine Station

ENVIRONMENTAL IMPROVEMENT DIVISION FIELD VISIT
EID Inspector(s): Parker / Lambert
Date of Inspection or Visit: 03/03/88
Discharger's Representative Present During EID Visit:
Name: Wayne Price, Ed. Hickerson, Thornton
Title or Position: Env. Man.; Unichem, Sta Mngr, Roland Trucking
Purpose of Visit:
a. Evaluation of Proposed Discharge Plan
b. Compliance Inspection of Discharge with Approved Plan
(c) Other (specify) MIT Pressure test
Inspection Activities During Field Visit:
(a) Inspection of Facilities or Construction (specify)
Facility regraded and bermed
b. Sampling of Effluents (give sampling locations)
c. Sampling of Ground Water (give names or locations of wells)
d. Evaluation of geology, soils, water levels or other physical characteristics of the location (specify)
(e) Other (specify) witnessed 6 hr pressure test.

Observations and Information Obtained during the Visit:
well held pressure

ACTION REQUIRED

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

February 18, 1988

Mr. Kevin A. Lambert, Hydrologist
Ground Water Section
State of New Mexico
Environmental Improvement Division
P. O. Box 968, Runnels Building
Santa Fe, New Mexico 87504-0968

SUBJECT: Carlsbad Brine Station DP-372
Monitoring and Reporting Form

Dear Kevin:

Per our telephone conversation on Thursday, February 18, 1988, we would like to request the deletion of the soil contamination investigation from the Monitoring and Reporting Form.

When we send this report we will simply mark it as being completed and non-applicable. You will receive this completed Form after you have witnessed the MIT sometime in March.

Please find attached the "Amended Monitoring and Reporting Form".

Thank you for your cooperation in this matter.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

LWP:jmb

Enclosure

cc: Richard Brakey
Ed Hesselschwerdt

Amended to delete soil contamination investigation by adding "completed, N/A"

MONITORING AND REPORTING FORM

ALL BLANKS MUST BE COMPLETED.

CHECK ALL APPLICABLE BOXES

DISCHARGE PLAN NUMBER: 372

SIC NUMBER: _____

EID DISTRICT: IV

ORIGINAL DP: X
ORIG. DP PEND. APPROV: _____
RENEWAL: X
RENEWAL PEND: _____
MODIFICATION: X
MODIFICATION PENDING: _____

NAME OF FACILITY: Unichem International - Carlsbad Brine Station

LOCATION OF FACILITY: Carlsbad

ALTERNATE OR PAST NAME OF FACILITY: same as above

CITY OR CLOSEST TOWN: Carlsbad USGS QUAD: Carlsbad

COUNTY: Eddy TWP: 22S RGE: 26E SEC: 36

CONTACT PERSON: Price Brakey (LAST NAME), Wayne R.J. (FIRST NAME) TITLE: Staff Engineer Vice President

ADDRESS OF CONTACT PERSON: P.O. Box 1499, Hobbs, NM 88240

TELEPHONE: 393-7751

TYPE OF FACILITY: Brine production facility and sales

MEANS OF DISCHARGE (LAGOON, LEACH FIELD, OTHER -SPECIFY): _____

Injection well and four new above grade storage tanks

REVIEWER: (CURRENT) Lambert (LAST NAME), Kevin (FIRST NAME)

DATE APPROVED: 12/19/86 DATE OF EXPIRATION: 12/19/91

MONITORING REQ: (COMMENT, IF NECESSARY, ON BACK)

SAMPLING SITE OR ID	STORET CODE (SAMP. SITE)	PARAMETER(S)	DATE DUE
Fresh water Brine water		Volume	April, Oct., July, January
Brine water		TDS, chlorides, nitrate-nitrogen, sulfates	April, Oct., July, January
Brine water		Sodium, potassium, calcium, magnesium, carbonate, bicarbonate	January

SAMPLING SITE OR ID	STORET CODE (SAMP. SITE)	PARAMETER(S)	DATE DUE
Mechanical Integrity Test		once a year	January
Bond log		once every 5 years	October 1991
Soil contamination investigation — COMPLETED — N/A		soil analysis, TDS, Cl^-	April, Oct., July, January

COMMENTS: Unichem has committed to notify EID within 48 hours of the detection or suspected detection of a leachate excursion, and shall provide subsequent reports as required by EID.

PRE-1977 DISCHARGE FOR WHICH DISCHARGE PLAN HAS BEEN REQUIRED UNDER SECTION 3-106.A. ?

YES X NO ___

OTHER APPLICABLE PERMITS:	YES	NO
RCRA	___	X
RADIOACTIVE MAT.	___	X
NPDES	___	X
UST	___	X

STATUS OF DP:

ACTIVE: X
WITHDRAWN: ___
EXPIRED, NOT RENEWED: ___
INACTIVE-TERMINATED OPERATIONS: ___
INACTIVE- OPERATION PENDING: ___

SEND REPORTS TO:

GROUND WATER SECTION
EID: GROUND WATER/HAZARDOUS WASTE BUREAU
P.O. BOX 968
SANTA FE, NM 87504-0968

REVISED: 12/12/86

BRINE STATION INSPECTION FORM

DATE 11/30 1987 EID INSPECTOR Lambert/Parker
FACILITY Unichem Carlsbad LOCATION Carlsbad
FACILITY REP ON SITE None COUNTY Eddy

send copy Wayne

WELL OPERATION

1 well system

WELL IS INJECTING: ✓ THROUGH ANNULUS __ THROUGH TUBING
SOURCE OF FRESH WATER City of Carlsbad
TRACE INJECTION/PRODUCTION LINES
Above grade
WELL HEAD PRESSURE ____ PSIG PUMP PRESSURE ____ PSIG
LEAKS AROUND WELL OR PUMP spillage around wellhead
spillage & gullies from spill running to low spots on property

STORAGE AREA

FOR PONDS:
GENERAL LINER APPEARANCE
AMOUNT OF FREEBOARD
ANY SIGN OF OVERFLOW OR LEAKS
LEAK DETECTION SYSTEM __ FLUIDS __ DRY

FOR TANKS:
GENERAL APPEARANCE Tanks good but need larger bermed area
LABLED PLAINLY ✓ YES __ NO a great deal of spillage outside area
BERMED TO PREVENT RUNOFF ✓ YES __ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH
NUMBER OF TANKS FOR BRINE ~~2~~ 4 2 working FRESH WATER 3

LOADING AREA

PROPERLY GRADED AND BERMED TO CONTAIN SPILLAGE	__ YES	✓ NO
ANY EVIDENCE OF RECENT SPILLAGE	✓ YES	__ NO
DOES FACILITY HAVE A SPILL COLLECTION SYSTEM	__ YES	✓ NO
ANY EVIDENCE OF OIL SPILLING/DUMPING	__ YES	✓ NO

MONITORING WELLS

DEPTH ____ FT STATIC WATER LEVEL ____ FT BELOW CASING
SAMPLED THIS VISIT __ YES __ NO TEMP ____ Ec ____

COMMENTS Facility needs a lot of surface work
Runoff from spillage evident over area - may be leaving property
Need to properly grade & install spill collection system
Will be contacting discharger

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

February 16, 1987

VIA CERTIFIED MAIL: P169568903

Mr. Kevin A. Lambert, Hydrologist
Ground Water & Hazardous Waste Bureau
State of New Mexico
Environmental Improvement Division
P.O. Box 968, Runnels Building
Santa Fe, NM 87504-0968

Dear Kevin,

SUBJECT: CARLSBAD BRINE STATION

The enclosed drilling report for removal of soil samples and the soil analysis from A & L Plains Agricultural Laboratories, Inc., are submitted in compliance with your request. Please note that signatures for the individuals present during the sample removal process are on file--this includes the signature of Doug LaCosse with Abbott Brothers Drilling, as well as the signatures of Ed Hesselschwerdt and Wayne Price of Unichem International Inc.

In addition, I have enclosed photographs depicting the drilling operation of February 3 and the drainback system that has been installed in compliance with the EID's request. These submittals should fulfill all the requirements requested by your office for the permitting of Carlsbad Brine Station.

Thank you for your assistance with this project over the past few months. If you have any questions, please do not hesitate to call me.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

WP:mms

Enclosure

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

CARLSBAD BRINE STATION

DRILLING REPORT - FEBRUARY 3, 1987

10:00 a.m.	Began drilling procedure - Abbott Brothers Drilling Wayne Price and Ed Hesselschwerdt of Unichem were present for observation purposes.
	0 - 15' Top soil - wet. 15 - 22' Loose clay and small river rock first 5'; at 15-20', began to dry up. 22 - 25' Small amount of fresh water required to ease up out of hole.
11:38 a.m.	25' - Hit fine sand - light brown in color.
	28' - Stopped water.
11:51 a.m.	30' - Wet fine sand and gravel. Sample #1 taken.
	31' - Changed auger bits; found large river rock.
12:06 p.m.	Cave in at 31'; filled hole to 25' and began clean out. Cave in again; hole filled back to 23'.
12:16 p.m.	Break for lunch. Auger changed from 12-1/4" to 18".
1:54 p.m.	25' - Clay, sand and rock - clean out.
2:47 p.m.	30' - Finished cleaning hole; hole kept caving in.
	Changed to 6" core barrel from 18" auger.
3:17 p.m.	Samples taken: 2 at 33' from inside core; 1 at 31" from inside core.
3:30 p.m.	Hole covered with barrel until results obtained from samples.

L041-4a

A & L PLAINS AGRICULTURAL LABORATORIES, INC.

302 34TH STREET • POST OFFICE BOX 1590 • LUBBOCK, TEXAS 79408
TELEPHONE 806 763-4278

FEB. 10, 1987

UNICHEM INTERNATIONAL INC.
ATTN: WAYNE PRICE
P.O. BOX 1499
HOBBS, NM 88240

Subject: SOIL SAMPLES

LAB NO:	SAMPLE MARKED:	CHLORIDE ppm
90901	30' open hole sample	546
90902	33' core sample	651
90903	33' core sample	615
90904	31' core sample	618

RESPECTFULLY SUBMITTED,

E.A.COLEMAN

UNICHEM
INTERNATIONAL

DRILLING OPERATION TO OBTAIN SOIL
SAMPLES - CARLSBAD BRINE STATION

DRAINBACK SYSTEM
CARLSBAD BRINE STATION

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 19, 1986

Richard Brakey
Vice President
Unichem International, Inc.
P.O. Box 1499
Hobbs, NM 88240

Dear Mr. Brakey:

The renewal and modification of the discharge plan (DP-372) for the brine production facility and in situ extraction well located in Section 36, T22S, R26E Eddy County, New Mexico is hereby approved. The approved discharge plan renewal and modification consists of the materials dated January 28, March 18, April 4, August 28, October 6 and December 3, 1986, plus the information and materials submitted as part of the original discharge plan approved December 18, 1982.

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

Monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet. Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

Pursuant to Subsection 3-109.G.4., this plan renewal and modification is for a period of five years. This approval will expire December 19, 1991, and you should submit an application for a new approval in ample time before that date.

On behalf of the staff of the Ground Water Section, I wish to thank you for your cooperation during this discharge plan review.

Sincerely,

Richard Mitzelfelt
Bureau Chief
Ground Water/Hazardous Waste Bureau

RM:KL::egr

cc: Wayne Price, Unichem International, Inc., Hobbs
Garrison McCaslin, EID District IV Manager, Roswell

P 307 963 478

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Richard Brakey
Street and No.	P.O. Box 1499
P.O., State and ZIP Code	Hobbs, NM
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

PS Form 3800, June 1985 ★U.S.G.P.O. 1985-480-794

Fold at line over top of envelope to the right of the return address

MONITORING AND REPORTING FORM

ALL BLANKS MUST BE COMPLETED.

CHECK ALL APPLICABLE BOXES

DISCHARGE PLAN NUMBER: 372

ORIGINAL DP: X
ORIG. DP PEND. APPROV:
RENEWAL: X
RENEWAL PEND:
MODIFICATION: X
MODIFICATION PENDING:

SIC NUMBER:

EID DISTRICT: IV

NAME OF FACILITY: Unichem International - Carlsbad Brine Station

LOCATION OF FACILITY: Carlsbad

ALTERNATE OR PAST NAME OF FACILITY: same as above

CITY OR CLOSEST TOWN: Carlsbad USGS QUAD: Carlsbad

COUNTY: Eddy TWP: 22S RGE: 26E SEC: 36

CONTACT PERSON: Price Brakey (LAST NAME), Wayne R.J. (FIRST NAME) TITLE: Staff Engineer Vice President

ADDRESS OF CONTACT PERSON: P.O. Box 1499, Hobbs, NM 88240

TELEPHONE: 393-7751

TYPE OF FACILITY: Brine production facility and sales

MEANS OF DISCHARGE (LAGOON, LEACH FIELD, OTHER -SPECIFY):

Injection well and four new above grade storage tanks

REVIEWER: (CURRENT) Lambert (LAST NAME), Kevin (FIRST NAME)

DATE APPROVED: 12/19/86 DATE OF EXPIRATION: 12/19/91

MONITORING REQ: (COMMENT, IF NECESSARY, ON BACK)

SAMPLING SITE OR ID	STORET CODE (SAMP. SITE)	PARAMETER(S)	DATE DUE
Fresh water Brine water		Volume	April, Oct., July, January
Brine water		TDS, chlorides, nitrate-nitrogen, sulfates	April, Oct., July, January
Brine water		Sodium, potassium, calcium, magnesium, carbonate, bicarbonate	January

SAMPLING SITE OR ID	STORET CODE (SAMP. SITE)	PARAMETER(S)	DATE DUE
Mechanical Integrity Test		once a year	January
Bond log		once every 5 years	October 1991
Soil contamination investigation		soil analysis, TDS, Cl^-	April, Oct., July, January

COMMENTS: Unichem has committed to notify EID within 48 hours of the detection or suspected detection of a leachate excursion, and shall provide subsequent reports as required by EID.

PRE-1977 DISCHARGE FOR WHICH DISCHARGE PLAN HAS BEEN REQUIRED UNDER SECTION 3-106.A. ?

YES X NO ___

	YES	NO
OTHER APPLICABLE PERMITS: RCRA	___	X
RADIOACTIVE MAT.	___	X
NPDES	___	X
UST	___	X

STATUS OF DP:

ACTIVE: X
WITHDRAWN: ___
EXPIRED, NOT RENEWED: ___
INACTIVE-TERMINATED OPERATIONS: ___
INACTIVE- OPERATION PENDING: ___

SEND REPORTS TO:

GROUND WATER SECTION
EID: GROUND WATER/HAZARDOUS WASTE BUREAU
P.O. BOX 968
SANTA FE, NM 87504-0968

REVISED: 12/12/86

E I D B U C K S L I P

CHECK ONE:

[X] LETTER TO Unichem International
for Mitzelfelt signature

[ ] MEMO TO _____

[ ] PRESS RELEASE

[ ] OTHER

SUBJECT: Discharge Plan Approval for Renewal + Modification

DRAFTED BY: Kevin Lambert 12/19/86 (Date)

CONCURRENCES:

NAME:		INITIAL	DATE REC'D	DATE APPROVED
E. Rebuck	Sect. Mgr.		12/22	12/22
R. Mitzelfelt	Bur. Chief			12/23
Richard Holland	Dep. Dir.			
Denise Fort	Director			

FINAL DECISION NEEDED BY ASAP (date) BECAUSE Have been working for the past year to obtain a complete discharge plan and now it is finalized

COMMENTS BY DRAFTER OR REVIEWER(S):

This is a brine production facility which needed to modify its surface facilities to be in compliance w/ WQCC. Also at this ~~time~~ time the discharger ~~has~~ close to renew plan since it expires Dec '87. The plan and the facilities are both in satisfactory condition and staff does not expect any problems

BRINE STATION INSPECTION FORM

DATE 12/8 1986 EID INSPECTOR Lambert, Koschal Baker, Johnson
FACILITY Unichem Carlsbad LOCATION Carlsbad
FACILITY REP ON SITE Wayne Price COUNTY Eddy
DP-372 Ed Hesselschwerdt

WELL OPERATION

WELL IS INJECTING: X THROUGH ANNULUS ~~X~~ THROUGH TUBING
SOURCE OF FRESH WATER City of Carlsbad underground lines
TRACE INJECTION/PRODUCTION LINES

WELL HEAD PRESSURE PSIG PUMP PRESSURE 90-92 PSIG
LEAKS AROUND WELL OR PUMP None

STORAGE AREA

FOR PONDS: Old pit no longer in use, will be removed and
GENERAL LINER APPEARANCE properly graded early '87

AMOUNT OF FREEBOARD
ANY SIGN OF OVERFLOW OR LEAKS
LEAK DETECTION SYSTEM __ FLUIDS __ DRY

FOR TANKS:
GENERAL APPEARANCE Frac Tanks → Permenent brine lines on surface, which are replaced when needed
LABLED PLAINLY X YES __ NO
BERMED TO PREVENT RUNOFF X YES __ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH

NUMBER OF TANKS FOR BRINE 4 FRESH WATER 3 2000 bbls
1000 bbls

LOADING AREA

PROPERLY GRADED AND BERMED TO CONTAIN SPILLAGE X YES __ NO
ANY EVIDENCE OF RECENT SPILLAGE __ YES X NO
DOES FACILITY HAVE A SPILL COLLECTION SYSTEM X YES __ NO will be installed by end of '86
ANY EVIDENCE OF OIL SPILLING/DUMPING __ YES X NO
Area has been recently graded, extremely mudding due to heavy morning rains

MONITORING WELLS

DEPTH FT STATIC WATER LEVEL FT BELOW CASING
SAMPLED THIS VISIT __ YES __ NO TEMP Ec

COMMENTS Use Vacuum truck to clean up spills

Send Insitu Extraction Well Outline

11/12/86 Wayne Price - Unichem/Carlsbad
393-7751 RE: Additional Information EID needs to make
2:00pm Not Left Message decision on DP approval & disapproval
- Also will be visiting week of Dec 8th

1. Frac tanks Permenant or Temporary? uncertain depending on market will make modification if temporary
OK no problem putting berms will be completed before DP approval
- need berms around tanks to contain spills or leak
- Need Plans + Specs on liner material for drainback system will send specs on liner material before DP approval

M+R Requirements
2. Chemical Analysis of Brine Solution
- Monitor 5-209 & Report 5-208 quarterly for Cl^-, SO_4, NO_3-N, TDS
- Once a year monitor + report NA^+, K^+, Ca^{++} Mg^{++}, HCO_3^-, CO_3^-
See no problem except w/ report quarterly will address in letter

3. Pressure Test Once a year / and a Bond Logs every 5 years No problem w/ pressure test or bond logs

4 Monitor + Report Quarterly Injected + produced fluid volumes No problem reporting quarterly is monitored continous

5. Must commit to notify EID w/in 48 hours of leak, spill or unanticipated discharge, outlining steps to remediate the uncontrolled discharge to ~~be~~ gain compliance w/ DP
No problem w/ notification on spills of leak

6. Must submit DP Signatory Requirement under 5.101.H.
No problems

7. Provide ~~Quarterly~~ Quarterly Update on soil contamination
No problems pending report investigation / Requirement will be deleted once completely

Discharge Plan Submittal 10/6/86

11/3/86 Unichem - Carlsbad Discharge Plan Review

Part III 3-106 Discharge Plan Application - Part A

1. Location - OK Maps included
2. Type of operation - Brine extraction well for oil & gas industry
3. Means of Discharge - In-situ Extraction Well inject fresh water remove brine
4. 92,000 gpd
5. TDS = 300,000 mg/l
6. Several submittals in files showing location of ~~my~~ bodies of water surface or ground
   * No wells within the Area of Review *
7. Ground Water DTW = 150 feet TDS = 2,500 mg/l
8. Flooding Potential - No known flood zones, Drainage to East
9. Sampling & Measurement of flow - See ~~[redacted]~~ Flow Schematic depicting sampling + measurement points, ~~Plans~~ * Inspect on Visit
10. Location of existing and proposed monitor wells - No [redacted] monitor wells proposed, no wells exist within area of review
11. Geologic Description - See Exhibit C containing drilling log, no water encountered in drilling; 0-210' Red bed and shale, 210-240' Anhydrite and shale, 240-715' Salt, 715-930' Open Hole
12. Plans & Specs - Have submitted Flow Schematic which is adequate along with earlier submittals
13. Spill Collection System - proposed for the loading area * P+Spec on 30 mil liner

Part V In Situ Extraction Well

I. General Description

A. OK
B. OK
C. OK

} see DP file

II Description of Facility

A. Surface Facilities

1. OK

2. No specifics, will check on field trip, don't expect any problem

3. OK See Part III. 4. for discharge; have history of withdrawal which is variable depending on market.

4. NA using frac tanks are permenant or temporary

B. Underground Facilities

1. OK

2. OK

3. NA wells in use since '76

4. Average injection pressure = 90 psig; Maximum injection pressure = 180 psig; Injection Volume = 92,000 gpd

5. NA

6. NA

III Site Characteristics

A. Soils = NA

B. Geology

1. OK

2. No X-Section Maps detailing the geology and geologic structures but available information looks good to meet requirement

3. OK

C. Hydrology

1. NA

2. NA

3. OK

4. No groundwater encountered in area of review

5. City of Carlsbad water system - Submit Quarterly Volume Injected
   - Submit quarterly analysis if not city water system

6. Chemical Analysis of brine solution
   - Submit quarterly
   - Analyze for Na^+, K^+, Ca^{++}, Mg^{++}, HCO_3^-, CO_3^-, Cl^-, $SO_4^=$, NO_3, and TDS

IV Procedures to Protect Ground Water Quality

A. During Operation

1. NA Nothing ie. well/shaft or other conduits within area of review

2.

3. NA

4 OK See Schematic diagram

5. OK

6. OK

7. NA Enclosed above grade Frac Tank

8. NA No wells within area of review

9. Designed new drain back system at truck loading area

10. Need to Develop any contingency plan put berm around frac tanks to contain spills

11. Must Commit to notify EID w/in 48 hours of leak, spill or unanticipated discharge

B. Post-operational commitments prior to plan approval

1. Plugging and Abandonment

* a. Must get commitment

b. OK have P&A Bond on file w/ EID

* 2. Must state ~~whether~~ whether frac tank permenant or temporary, if temporary what is long term plans

* V Sign off Requirement
- Must get prior to DP Approval

* ~~Develop & implement~~ Continue work on a remedial soil contamination investigation

RC

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 20, 1986

Unichem International Incorporated
Richard Brakey, Vice President
P.O. Box 1499
Hobbs, New Mexico 88240

Dear Mr. Brakey:

Enclosed is a copy of the public notice pertaining to your proposed discharge which was issued by this division pursuant to New Mexico Water Quality Control Commission Regulations, Section 3-108.

If you have any questions, please do not hesitate to contact me at the address listed below or at phone number (505) 827-2899.

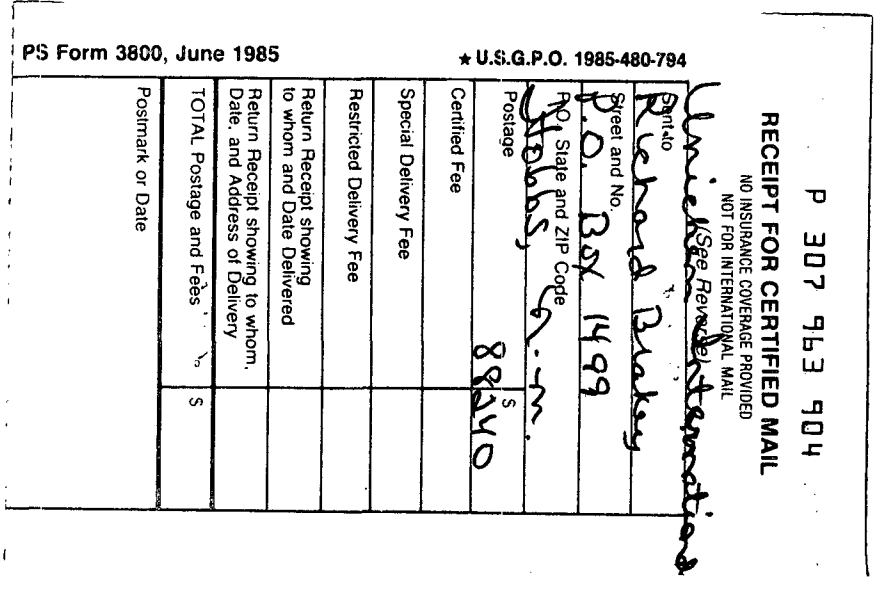
Sincerely,

Bruce Gallaher

Bruce Gallaher
Acting Program Manager
Ground Water Section

BG/mp

Enclosure


PS Form 3800, June 1985 ★ U.S.G.P.O. 1985-480-794

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

P 307 963 904

Sent to Unichem International
Street and No. P.O. Box 1499
P.O. State and ZIP Code Hobbs, N.M. 88240
Postage $
Certified Fee
Special Delivery Fee
Restricted Delivery Fee
Return Receipt showing to whom and Date Delivered
Return Receipt showing to whom, Date, and Address of Delivery
TOTAL Postage and Fees $
Postmark or Date

(See Reverse for Instructions)

EQUAL OPPORTUNITY EMPLOYER

P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 827-0020

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 20, 1986

The Honorable JoAnn Martin, Mayor
City of Hobbs
P.O. Box 1117
Hobbs, New Mexico 88240

Dear Mayor Martin:

Enclosed is a public notice which includes notice of a proposed discharge plan(s) for one or more operations in or near your city.

If you have any questions, please do not hesitate to contact me at the address given below or at 827-2899.

Sincerely,

Bruce Gallaher

Bruce Gallaher
Acting Program Manager
Ground Water Section

BG/mp

Enclosure

PS Form 3800, June 1985 ☆ U.S.G.P.O. 1985-480-794

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

P 307 963 922

Sent to	City of Hobbs (Or Rev. Dr. Martin, Mayor)
Street and No.	P.O. Box 1117
P.O., State and ZIP Code	Hobbs, N.M. 88240
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

EQUAL OPPORTUNITY EMPLOYER

P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 827-0020

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 20, 1986

Board of County Commissioners
Eddy County
Eddy County Courthouse
Hobbs, New Mexico 88240

Board of County Commissioners:

Enclosed is a public notice for one or more operations located in your county.

If you have any questions, please do not hesitate to contact me at the address listed below or at phone number (505) 827-2899.

Sincerely,

Bruce Gallaher

Bruce Gallaher
Acting Program Manager
Ground Water Section

BG/mp

Enclosure

PS Form 3800, June 1985 ★ U.S.G.P.O. 1985-480-794

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

P 307 963 915

Sent to	Board of Co. Comm.
Street and No.	Eddy Co. Courthouse
P.O. State and ZIP Code	Hobbs, N.M. 88240
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

OCTOBER 20, 1986

TO BE PUBLISHED ON OR BEFORE OCTOBER 29, 1986

PUBLIC NOTICE
NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION

Notice is hereby given that, pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plans have been submitted for approval to the Director of the New Mexico Environmental Improvement Division, P.O. Box 968, Santa Fe, New Mexico 87504-0968; telephone (505) 827-2916.

(DP-447) MORIARITY MUNICIPAL SCHOOLS, Tommy T. Brown, Superintendent, Drawer 20, Moriarity, New Mexico 87035, proposes to discharge 10,000 gallons per day of domestic sewage effluent into a septic-tank-leachfield. The proposed discharge will be located in T9N, R8E, Section 5, Torrance County, New Mexico. The ground water below the site is at a depth of 132.5' and has a total dissolved solids content of approximately 372 mg/l.

(DP-190) OTHART DAIRY, Leon Othart, Owner, 24 Los Chavez Loop, Belen, New Mexico 87002, proposes to renew his previously approved discharge plan for the disposal of milking center wastes. The dairy is located 1.7 miles east of Veguita in Section 33, T4N, R2E, NMPM, Valencia County. The plan is for the discharge of up to 11,000 gallons per day of milking center wastewater to a holding pond. The ground water most likely to be affected is at a depth of 75 feet with a total dissolved solids content of approximately 700 mg/l.

(DP-184) ROMIG DAIRY, B.J. Romig, Owner, P.O. Box 940, Las Cruces, New Mexico 88004, proposes to renew his previously approved discharge plan for the disposal of milking center wastewater. The dairy is located about 2½ miles north of Las Cruces in Sections 2, 3, 10 and 11, T23S, R1E NMPM, Dona Ana County. Approximately 14,000 gallons per day of wastewater is land applied to 91 acres of cropland. The ground water most likely to be affected is at a depth of approximately 15 feet with a total dissolved solids content of approximately 2000 mg/l.

(DP-35) TOWN OF SILVER CITY, John Lopez, City Manager, P.O. Box 1188, Silver City, New Mexico 88061, proposes to renew its approved discharge plan (DP-35) for the discharge of treated sewage effluent from the Town's wastewater treatment plant. The total discharge from the plant is currently approximately 1.1 million gallons per day (MGD). On an average annual basis, approximately 0.2 MGD is used to irrigate 65.8 acres of golf course and playing fields at Scott Park. The balance of the discharge is wasted to San Vicente Arroyo. Both Scott Park and San Vicente Arroyo are located at T18S, R14W, Section 11, Grant County, New Mexico. The ground water most likely to be affected is at a depth of approximately 80 feet and has a total dissolved solids concentration of 725 mg/l.

(DP-408) TRUOG DAIRY, [redacted]mmie Truog, Owner, Rt. 1 Box 8[redacted] Hagerman, New Mexico 88232, proposes to renew his previously approved discharge plan for the disposal of milking center wastewater. The dairy is located 4 miles west of Hagerman in Sections 15 and 16, T14S, R25E, NMPM, Chaves County. Approximately 21,000 gallons per day of milking center wastewater and manure contaminated runoff is land applied to 640 acres of cropland. The ground water most likely to be affected is at a depth of approximately 170 feet with a total dissolved solids content of approximately 1000 to 2000 mg/l.

(DP-372) UNICHEM INTERNATIONAL INCORPORATED, Richard Brakey, Vice President, P.O. Box 1499, Hobbs, New Mexico 88240, proposes a renewal and modification of the existing discharge plan for its Carlsbad brine station located in Section 36, T22S, R26E in Eddy County. The station will produce 92,000 gallons per day of brine with a total dissolved solids content of approximately 300,000 mg/l by injecting fresh water through an injection well into a dry salt formation. Brine will be stored in four new 21,000 gallon above grade storage tanks and sold as a brine water solution to various companies for use in oil and gas production. The ground water most likely to be affected is at a depth of about 150 feet with a total dissolved solids content of approximately 2,500 mg/l.

Any interested person may obtain further information from the Ground Water Section, Ground Water/Hazardous Waste Bureau, EID, and may submit written comments to the Director of the EID at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of EID will allow thirty (30) days after the date of publication of this Notice during which comments may be submitted to her and a public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why the hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

10/7/86 — To: Wayne Price - Staff Engineer, Unichem - Carlsbad
393-7751 — From: Kevin Lambert - UIC
2:28pm — RE: Submittal of Plans & Specs, Implementation schedule, Vadose Zone Investigation, etc..., by Oct. 8, 1986, to comply w/ Part 3/Part 5

Dennis McQ Talk in Hobbs
- City Hall Rm 1+B
- Water Quality & Quantity Problem Lea County

→ Put submittal in mail 10/6/86 (certified mail) should get late today - early tomorrow
If any problems getting information let Wayne know and He'll send another copy

EID will review and evaluate, and respond with our position regarding the discharge plan status

Kevin Lambert

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

August 28, 1986

Mr. Kevin A. Lambert, Hydrologist
Ground Water & Hazardous Waste Bureau
State of New Mexico
Environmental Improvement Division
P.O. Box 968, Runnels Building
Santa Fe, NM 87504-0968

Dear Kevin,

This letter is in reference to my recent visit with you on August 8, 1986, at which time we discussed the Carlsbad Brine Station. During our discussion, we agreed upon a 60-day extension from August 8 through October 8, 1986, for the submittal of plans, implementation schedules, etc., in order to comply with Parts 3 and 5 of the New Mexico Water Quality Control regulations.

We do plan to follow up on your recommendation to remove the existing brine head and install movable frac tanks in place of the brine pit. These tanks will be a temporary measure so that we may remove the head from the existing pit. You indicated that removal of this head would stop further migration into the soil, if the pit is leaking. At this time, we do not know if the pit is actually leaking. The soil samples that were taken and indicated a high chloride content could possibly be the result of spillage over the top of the tank, caused by a malfunction in the level control valve.

Part of our new plan will include installation of a new device very similar to that installed on the Eunice Brine Station. This device is doing an excellent job in eliminating overflow and spillage. The well pressure integrity test chart that I delivered to you at the time of my visit will also comprise a portion of our discharge plan.

Kevin, this letter is not intended as a submittal for Part 3 or Part 5, but is merely to inform you of our interim plans, and

also to make you aware of the fact that we will be providing a submittal by October 8.

If you have any questions, please feel free to contact me.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

WP:mms

cc: Jim Britton
Richard Brakey

from the desk of...

ED HESSELSCHWERDT

WAYNE,

AS YOU CAN SEE THIS TEST STARTED AT APPROX. 7:30 A.M. ON MONDAY, 8-4-86. THE PRESSURE AT THAT TIME WAS 20 LBS. THE NORMAL WORKING PRESSURE OF THIS WELL IS APPRO. 70 LBS. THE TEST WAS COMPLETED AT 9:40 P.M. DURING WHICH TIME THE WELL HELD OVER 180 LBS. VERY EVENLY, GIVE OR TAKE 4 LBS. DURING THIS TEST I CHECKED THE PRESSURE AT LEAST 2 TIMES, IF

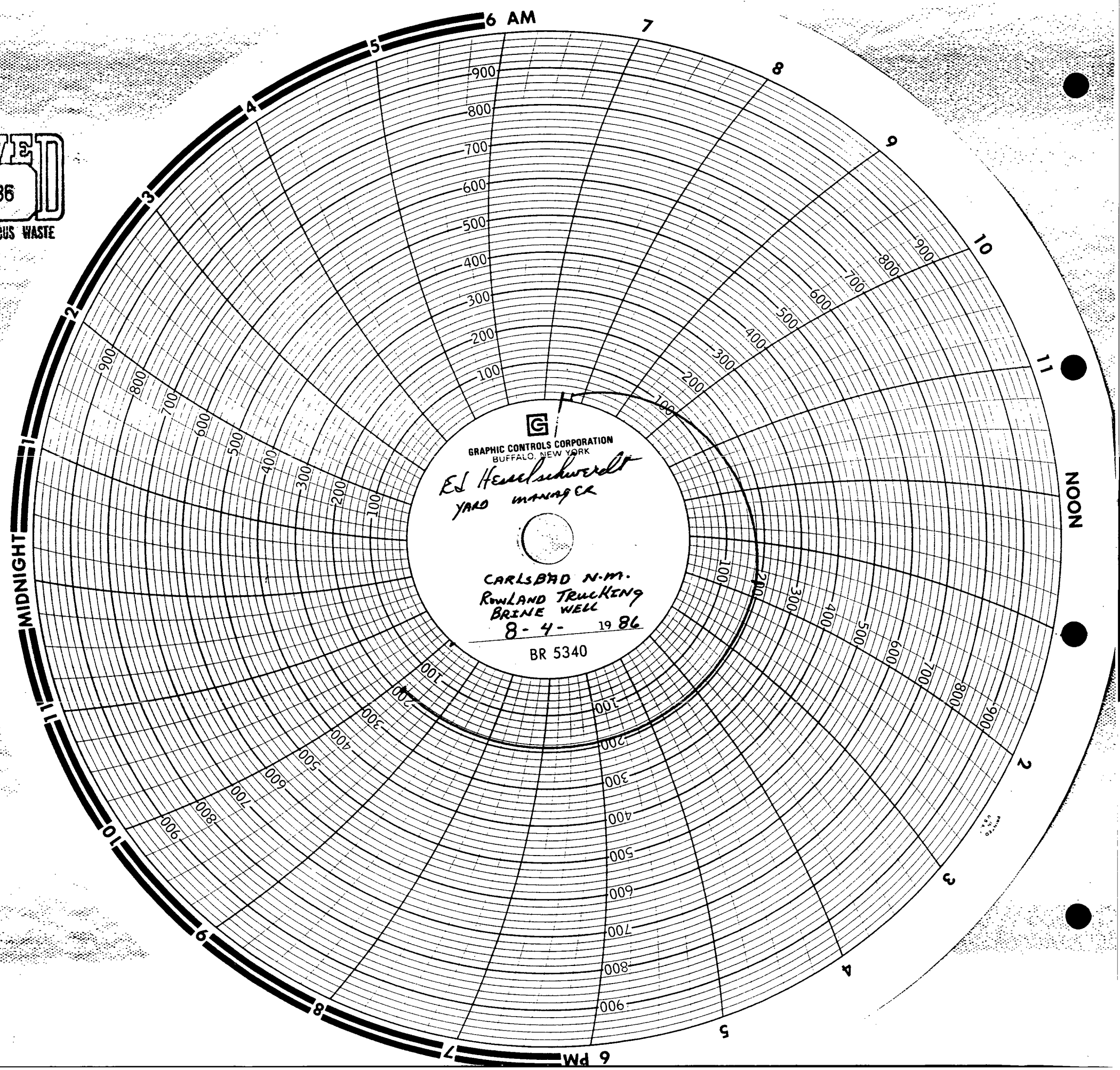
from the desk of...

ED HESSELSCHWERDT

YOU HAVE ANY QUESTIONS CONCERNIN THIS TEST PLEASE FEEL FREE TO CONTACT ME. I WOULD ALSO LIKE TO ADVISE YOU THAT LARRY RICHARDSON, ONE OF MY PUSHERS, ALSO WORKED ON THIS TEST AND CHECKED THE PRESSURE SEVERAL TIMES.

THANT YOU

Ed H.



8/8/86 Unichem Carlsbad - Wayne Price → operating @ 20%

1. Must adhere to your committments of 3/18/86, for surface facility

OK a.) Need all Plan & Speco for storage pit, liner, leak detection system, emergency catchment, piping, etc...

OK b.) Plans & Speco should be sent to Santa Fe office & Roswell office

OK c.) Need implementation schedule → stating complete implementation within 6 months of approval outlining in detail when facility modification commences, construction time, completion time, etc.... Must have prior to any

OK approval from EID.

for remedial action d.) Must submit detailed proposal to investigate soil contamination beneath storage pit
- extent contamination

Background - Eunice facility has been upgraded and been EID approval

* 60 days from Today 10/8/86 need all above information into EID regarding Part 3 for Unichem - Carlsbad

- Trucking #1 West Hwy 529 is shutdown but may startup at anytime, What do we do, Tell us the status of the facility and operating options → need a little spill retention work
- Trucking #2 in Hobbs at Broadway Place operating @ 50%

5-210 B.6 MAPS AND X-SECTIONS DETAILING GEOLOGY AND STRUCTURE IN LOCAL AREA

- PETE -

FILE AND ANALYSIS LOOKS GOOD. THE ONLY THING I CAN SEE NOT ADDRESSED IS 5-210.B.6. DO YOU WANT TO WRITE UP A LETTER TO WAYNE PRICE? LET ME KNOW.

Thanks

1:30 Uni Chem 6-30-86
Wayne Price

392-4046

~~T~~ Unichem

6/30/86 Wayne Price staff engineer 392-4046 393-7751 Left Message 2:05 pm

2:07 pm

RE: Unichem International Inc.

Carlsbad have extension until Sept. '86

- however economics has caused us to evaluate revamping similar to Eunice
- Told him he could submit what information he has and the rest which depends on economics of industry could be submitted has a condition to DP Approval. Please keep in mind we will have to evaluate conditions and make final determination :/ economics may be thrown aside if regulations don't allow flexibility. But overall EID see no problem granting approval w/ certain conditions being in place for the situation where the wells goes into ~~complete~~ full scale operation

Revamping Carlsbad like Eunice
What does this entail?
improving surface facilities
i.e. Tanks or lined impoundment

Kevin Lambert

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

June 2, 1986

Mr. Wayne Price
Unichem International Inc.
707 N. Leach
P.O. Box 1499
Hobbs, NM 88240

Dear Mr. Price:

I apologize for taking so long to respond to your letter dated April 8, 1986. I have completed a preliminary review of your discharge plan modification, and I have noted several items below which will need further attention.

Although Unichem has stated that water was not encountered when the Unichem Carlsbad well was drilled, the proximity of producing water wells in the vicinity of the Carlsbad Brine Station make a Part V application necessary. In view of this, Unichem will be required to submit the following additional information (appropriate corresponding regulations appear in parentheses).

1) A tabulation pursuant to Section 5-210.B.2 of all well within a 0.25 mile radius which penetrate the injection zone.
2) A corrective action program for any wells with a 0.25 mile radius of Unichem's well which penetrate the injection zone and are not properly completed or plugged (5-210.B.4).
3) A map or information showing ground water quality is required (5-210.B.5).
4) Average and maximum injection pressures need to be supplied (5-210.B.9., 5-210.C.3)
5) You will need to have a mechanical integrity (MI) test performed on the well, and submit the results of this test to the EID (5-207.C).
6) Monitoring parameters and frequency of monitoring need to be specified. The EID would suggest analyzing water quality quarterly, with the pressure, flow rate, flow volume, and annulus pressure being monitored quarterly and reported annually (5-207.C).

7) In addition, all the information listed in 3-106.C of the New Mexico Water Quality Control Commission Regulations will be required.

I hope that this letter clarifies the EID's position on the modification to the Unichem discharge plan. If you have any additional questions, or require additional information, please contact either myself or Mr. Kevin Lambert at 827-2906.

Sincerely,

Peter Maggiore

Peter Maggiore
Water Resource Specialist
Ground Water Section

cc: Garrison McCaslin, EID District IV Manager, Roswell

PM/pm

P 307 994 196

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

Sent to	Wayne Price
Street and No.	P.O. Box 1499
P.O. State and ZIP Code	Hobbs, N.M.
Postage	$ 88240
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

(See Reverse)

PS Form 3800, June 1985 ☆ U.S.G.P.O. 1985-480-794

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 29, 1986

Unichem Carlsbad Brine Station
Attention: R.J. Brakey, Vice President
P.O. Box 1499
Hobbs, New Mexico 88240

Dear Mr. Brakey:

Enclosed is a copy of the public notice pertaining to your proposed discharge which was issued by this division pursuant to New Mexico Water Quality Control Commission Regulations, Section 3-108.

If you have any questions, please do not hesitate to contact me at the above address or at phone number (505) 827-2894.

Sincerely,

Karl Souder

Karl Souder
Acting Program Manager
Ground Water Section

KS/mp

Enclosure

PS Form 3800, Feb. 1982

P 456 379 767
RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

Sent to (See Reverse)	Unichem Carlsbad
Street and No.	R.J. Brakey, V.P. P.O. Box 1499
P.O., State and ZIP Code	Hobbs, N.M.
Postage	$ 2.40
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 29, 1986

The Honorable Joann Martin, Mayor
City of Hobbs
P.O. Box 1117
Hobbs, New Mexico 88240

Dear Mayor Martin:

Enclosed is a public notice which includes notice of a proposed discharge plan(s) for one or more operations in or near your city.

If you have any questions, please do not hesitate to contact me at the above address and telephone number 827-2894.

Sincerely,

Karl Souder

Karl Souder
Acting Program Manager
Ground Water Section

KS/mp

Enclosure

PS Form 3800, Feb. 1982

P 456 379 763
RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

Sent to	City of Hobbs
Street and No.	P.O. Box 1117
P.O., State and ZIP Code	Hobbs, N.M. 88240
Postage	$
Certified Fee	Hon Joann Martin
Special Delivery Fee	Mayor
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 29, 1986

Board of County Commissioners
County of Eddy
Eddy County Courthouse
Hobbs, New Mexico 88240

Board of County Commissioners:

Enclosed is a public notice which includes notice of proposed discharge plan(s) for one or more operations located in your county.

If you have any questions, please do not hestitate to contact me at the above address or at phone number (505) 827-2894.

Sincerely,

Karl Souder
Acting Program Manager
Ground Water Section

KS/mp

Enclosure

P 456 379 771
RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Co. of Eddy
Street and No.	Board Co. Comm.
P.O., State and ZIP Code	Eddy Co. Courthouse Hobbs, N.M. 88240
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

PS Form 3800, Feb. 1982

MAY 29, 1986

TO BE PUBLISHED ON OR BEFORE JUNE 15, 1986

PUBLIC NOTICE
NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION

Notice is hereby given that, pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plans have been submitted for approval to the Director of the New Mexico Environmental Improvement Division, P.O. Box 968, Santa Fe, New Mexico 87504-0968; telephone (505) 827-2894.

(DP-240) BOLIDEN MINERALS INCORPORATED, John Cesar, Project Manager, 2596 North Silver Street, Silver City, New Mexico 88061, proposes to renew and modify a previously approved discharge plan (DP-170) to discharge up to 2.1 million gallons per day of effluent from surface runoff and underground seepage control and up to 110,000 gallons per day of effluent from processed tailings during operation of a copper-zinc mine and mill/process plant. The surface runoff and underground seepage will be discharged to an existing and a proposed sedimentation pond with an outlet to an unnamed arroyo, tributary to Bear Creek. The processed tailings will be discharged to a proposed tailings impoundment with a seepage control system. All ponds are located in Section 30, T16S, R13W, Grant County, New Mexico. The ground water most likely to be affected is 180 feet deep and has a total dissolved solids concentration of 300 mg/1.

(DP-166) PHELPS DODGE CORPORATION, Richard E. Rhoades, Manager, Tyrone, New Mexico 88065, proposes to modify their existing ground water discharge plan (DP-166). DP-166 covers the No. 2 copper leach system where leaching is conducted within a mined out section of the Tyrone open pit copper mine located in T19S, R15W, Grant County, New Mexico. The modification consists of adding approximately 167 acres of waste rock to the existing 640 acres of waste rock which are currently leached. The ground water most likely to be affected is at a depth of 150 to 250 feet with a TDS of 170 to 4000 mg/1.

(DP-435) PHELPS DODGE CORPORATION, Tyrone Branch, Tyrone, New Mexico 88065, proposes to operate a closed-cycle copper leach system (the number 2A) at its Tyrone mine. The operation will cycle 3000 gal/min of leach fluids. The pregnant solution will be directed to a solvent extraction/electrowinning plant, and the barren solution subsequently back out to the leach dump. The number 2A leach dump will cover 509 acres of which 10 acres will be leached at any one time. The location of the dump is in Grant County at T19S, R15W, parts of Sections 15, 16, 21, and 22. The ground water most likely to be affected lies approximately 250 to 700 feet below the surface of the dumps with a total dissolved solids range of 400 to 500 mg/1.

(DP-372) UNICHEM CARLSBAD BRINE STATION, R.J. Brakey, Vice President, P.O. Box 1499, 707 North Leach, Hobbs, New Mexico 88240, proposes to modify its discharge plan to discharge approximately 92,000 gallons per day of brine which is produced by injecting fresh water through an injection well into a dry salt formation. Discharge will be to a newly constructed synthetically lined storage pond. The brine storage pond and brine well are both located in Section 36, T22S, R26E, in Eddy County. The brine water has a total dissolved solids concentration of approximately 300,000 mg/liter. The ground water most likely to be affected is at a depth of approximately 150 feet, and has a total dissolved solids concentration of approximately 2500 mg/liter.

(DP-146) UNITED NUCLEAR CORPORATION, UNC Mining and Milling Division, P.O. Drawer QQ, Gallup, New Mexico 87301, proposes to renew discharge plan (DP-146) for three lined evaporation ponds located on UNC property southeast and adjacent to the present uranium tailings located in Section 2, T16N, R16W, McKinley County, New Mexico. These lined evaporation ponds were first approved in 1981 but were never built. Although these lined ponds were originally approved to store acidic tailings discharges, they could also potentially be utilized to store fluids produced from dewatering the tailings or from cleaning up of ground water contamination at the Church Rock site. These three ponds will total approximately 21 acres and are designed to store 12.2 million cubic feet of fluid. The entire 21 acres of the ponds will be lined with a synthetic liner and underlain by a secondary one-foot-thick compacted clay liner. The primary design consideration is to minimize any potential subsurface seepage. A water quality monitoring system is proposed to be located adjacent to the ponds. All structures designed in connection with the southeast evaporation ponds have taken the probable maximum flood (PMF) hydrograph into consideration. The ground water most likely to be affected is found within the Gallup sandstone, approximately 100 feet below the bottoms of the proposed evaporation ponds and the total dissolved solids of this water is estimated to be approximately 2,900 mg/l.

Any interested person may obtain further information from the Ground Water Section, Ground Water/Hazardous Waste Bureau, EID, and may submit written comments to the Director of the EID at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of EID will allow thirty (30) days after the date of publication of this Notice during which comments may be submitted to her and a public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why the hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

5/23

TO: FILE

FROM: P. MAGGIORE

RE: DP REVIEW FOR UNICHEM CARLSBAD BRINE WELL

Initially need to decide if facility needs a part II permit. This will be determined by whether or not there are any drilled wells within ¼ mile. Data submitted by Unichem show numerous wells in the area. Even though Unichem claims that no water was encountered while drilling (TD = 930') we will require a part II.

Section 5-104 says that we can permit with a part III only if in situ extraction well does not penetrate groundwater having 10,000 mg/l or less. Due to the proximity of neighboring wells, however, we will require a part II. ~~as well~~

Area of review will be 0.25 mile radius pursuant to 5-202B.2. The following information is lacking from Unichems DP application (pursuant to 5-210.B)

5-210.B.3 EID needs to know if any deeper wells (ie hydrocarbon exploration or production wells) exist in the area of review

.4 If wells are found (see 5-210.B.3) corrective action, if appropriate, must be proposed.

.5 Groundwater maps and information on quality is required.

.8b Average and maximum injection pressures need to be supplied

9. We will require a mechanical integrity (MI) test. A pressure drop of $\leq 2\%$ (after an initial drop) will be viewed as acceptable. If a drop of $>2\%$ is noted, a packer test will be required to determine where the integrity loss is located (well casing vs. formation).

16. Need to specify monitoring requirements
    - analyze water quarterly
    - injection pressure, flow rate, flow volume & annulus pressure.

In addition, all information required in 3-106.C will be required.

UNICHEM-CARLSBAD

UNIT H, SECTION 36 T 22S, R 26E

DRILLED 7-13 TO 8-20-76 WITH CABLE TOOL.

SURF. CASING 8 5/8 32# TO 350 in 13" HOLE - 225 SX CLASS C 4% $CaCl_2$

.4380 FT^3/FT C = 1.32 FT^3/SK (297 FT^3 S.V.) 153 needed = 100% EX - OK

INTER CASING 5 1/2 14# TO 710 IN 7 7/8 HOLE 150 SX CLASS C 4% $CaCl_2$

.1733 FT^3/FT (198 FT^3 S.V.) 123 needed - OK

AVE PRODUCTION 160 BBL/HR = 112 GPM

PRESSURE = 225 PSI

FRESH WATER FROM CITY OF CARLSBAD.

P&A BOND - OK

11/18/85 - PAIGE REQUIRED MODIFICATION - MUST ADDRESS SPILLAGE & LEAK DETECTION & CHECK TO SEE IF GW CONTAMINATED.

12/2/85 UNICHEM REQUESTS EXTENSION ON PAIGE MODIFICATION DEADLINE
12/11/85 PAIGE SAY OK TO EXTENSION IF SUBMIT PLANS for investigation by 1/18 AND DP by 3/18
1/16/86 UCHEM sends in invest. PLAN.
2/25 PAIGE SAYS PLAN NOT SUFFICIENT.
1/28 UCHEM sends more detailed investigation Plan
2/5 Paige Comments on Plan.

CHECK

- Surrounding Water Wells - Unichem Claims no water at site
- PLAN APPROVED 12/18/82 Provided Monitoring/Leak Detection

5/19/86 TELEPHONE CONVERSATION - WAYNE PRICE - UNICHEM INT'L

- TRUCKERS #1 PART 5 IN SEPT. - NO MODIFICATION TO PART 3.

- CARLSBAD - - NO ~~GW~~ WATER AT SITE, ACQUIRED WATER RIGHTS. TRADED CITY WATER RIGHTS FOR CITY WATER SUPPLY.

- PAIGE VERBALLY AGREED - PART 3 PLAN

- I'll put out Part 3 PN AS SOON AS NEXT PN GOES OUT.

- I'll RE CHECK ON PART 3 & 5 NEEDED AND REVIEW PLAN ACCORDINGLY & GET BACK TO PRICE.

Steve Sorek

VIA CERTIFIED MAIL

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

April 4, 1986

Paige Grant Morgan, Acting Program Manager
State of New Mexico
Environmental Improvement Division
Ground Water Section
P.O. Box 968
Santa Fe, New Mexico 87504-0968

RE: Unichem Carlsbad Brine Station

Dear Paige:

In my letter to you of March 18, concerning the first submittal of Parts 3 & 5 Discharge Plan for the Carlsbad Brine Station, I referred to the history of this well (Item III, Exhibit 4). The attached affidavit dated April 2, 1986, is a part of this Exhibit 4 and should be taken into consideration in your evaluation of the Carlsbad Brine Station. Bob Brakey, who signed this affidavit, was the Manager of Rowland Trucking at the time the well was initially drilled.

Paige, I will continue to submit information and data to you on this Carlsbad Brine Station. If you have any questions on the submittals to date, please let me know.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price

Wayne Price
Staff Engineer

WP/sar
Enclosure

cc: Richard Brakey

April 2, 1986

Bob Brakey
Alamo Country Club
Box 61
Alamo, TX 78516

To Whom It May Concern:

The Rowland Trucking Company, Carlsbad Brine Station, drilled as Truckers Water Company Brine Well #2, was drilled because a need existed for good uncontaminated brine in the Carlsbad Area. A knowledge of salt deposits in the area was obtained from the drilling rigs. Fresh water was available only through the City of Carlsbad, but they were not receptive to adding large volume commercial demand because of over-use of their water rights allocations. Water rights were purchased by Rowland for the purpose of supplying the brine station.

A site for drilling a brine well was selected to satisfy a number of critical criteria as follows:

(1) Sufficient salt deposits

(2) Possible sub-surface fresh water

(3) Access for trucks

(4) Possible fresh water purchase from the City of Carlsbad.

The well was drilled by the Musselwhite Water Well Drilling Company, with cable tools in hopes of finding some fresh water. None was found, the well was so dry, that is was necessary to add water to the hole to facilitate drilling. The water rights purchased by Rowland were given to the City of Carlsbad in return for a Commercial Connection at the airport. The trade-out was negotiated by Bob Forrest of Forrest Tire Company.

The above has been written as a true statement.

Bob Brakey

Bob Brakey

Before me this day personally appeared Bob Brakey whose signature(s) appear above who by me being duly sworn upon oath says that the statements set forth above are true and correct.

Subscribed and sworn before me this 4th day of April, 1986.

Belinda Martinez

Notary Public in and for
the State of Texas
My Commission Expires: 3/24/87

Belinda Martinez

UNICHEM
INTERNATIONAL
P.O. BOX 1499 / HOBBS, NEW MEXICO 88240

CERTIFIED
P 176 663 846
MAIL

Paige Grant Morgan, Acting Program Manager
State of New Mexico
Environmental Improvement Division
Ground Water Section
POB 978
Santa Fe, NM 87504-0968

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

March 18, 1986

Paige Grant Morgan, Acting Program Manager
State of New Mexico
Environmental Improvement Division
Ground Water Section
P.O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Unichem Carlsbad Brine Station
First Submittal
Parts 3 & 5 Discharge Plan Permit

Dear Paige:

Please accept the following attachments pertaining to the Carlsbad Brine Station:

I. Newly designed system to comply with your requirements as a plan for amendment with Part 3 of the New Mexico WQCC regulations;

II. Results of soil samples and test procedures;

III. Preliminary Part 5 discharge plan.

It is our intention to rebuild the Carlsbad brine station per the attachments described in item #1. We have determined that it would be not only impractical and uneconomical to try to install a monitor under the existing brine pit, but dangerous as well.

Paige, we are proceeding with this brine station in the same manner that we did with the Eunice brine station. Once we have your approval on Part 3, we will begin the actual physical work. It is our hope to be fully permitted within six months of your letter dated March 3, or September 3, 1986.

Please let me know if you require additional information.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price

Wayne Price
Staff Engineer

WP/sar
Enclosures - noted

UNICHEM INTERNATIONAL

Item I:

Exhibit 1 - Proposed Plot Plan

1. Dismantle and remove existing brine "open" storage reservoir.
2. Construct new brine storage pit; 10,000 Bbls. with OCD or equivalent-approval monitor.
3. Pit to be lined with 30-mil hyplon liner.
4. Construct new spill catch basin trap. This trap will be constructed of concrete with two segments for trapping sediment and oil and returning the miscellaneous spilled brine to the storage pit. Any hydrocarbons will be removed from spill catch basin on routine basis.
5. Driveway subgrade will be "beefed up" incorporating concrete tailings. Driveway to be sloped so all miscellaneous spills will be collected in new spill catch basin.
6. System will be designed so elevations of proposed spill catch basin and new storage pit will not be affected during worst case rains.
7. Install new loading pump and pipe rack.

Exhibit 2 - Piping Schematic

1. System will be comprised of one 1,000 Bbl. fresh water tank, two 750 Bbl. tanks, one 10,000 Bbl. storage open lined pit with automatic level device. Fresh water tanks will have electronic level control.
2. New loading lines will have drain-back lines to reduce incidental spillage when trucks disconnect. These drain-back lines will drain back to the new spill catch basin trap.
3. New level controller in brine storage pit will prevent any accidental overflow and will be interlocked with a shutoff valve located on the wellhead.

Item II:

Exhibits 3a, 3b and 3c - Soil Samples and Sample Procedures per your request.

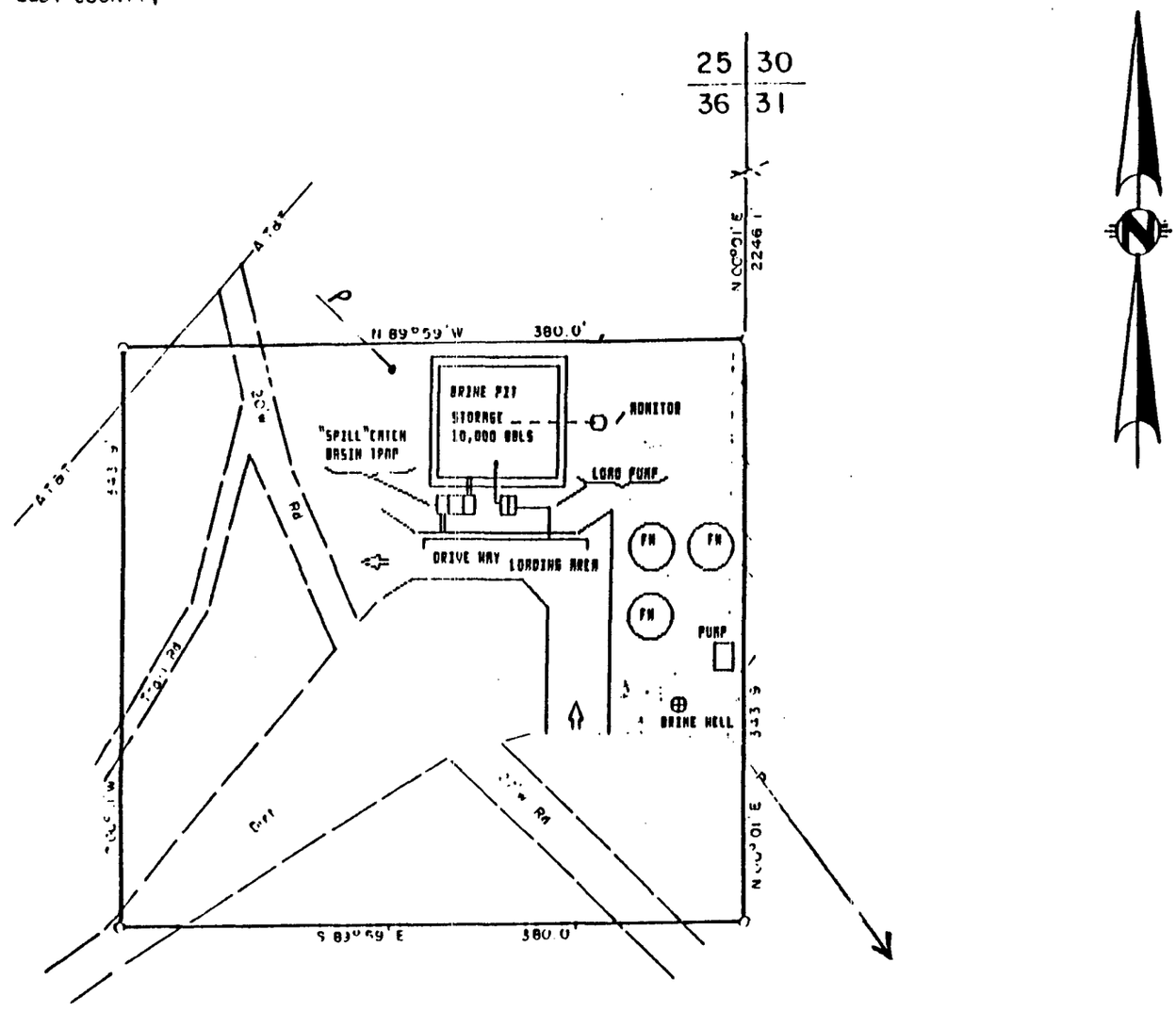
Item III:

Exhibit 4 - Complete brine well history, data, information, transmittals, miscellaneous letters, etc. for your EID files.

Please note the history of drilling this well initially was the intention of obtaining fresh water using a cable tool rig upon completion of water well, then brine well was to be drilled. Fresh water was not encountered and well was given approval by OCD to complete as a brine mineral well. Affidavits are being obtained from parties involved and will be forwarded as soon as received by this office.

90818

SECTION 36, ELDY COUNTY, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M. NEW MEXICO



O — Set 1/2" RB w/ Yellow Caps

EXHIBIT 1 - PROPOSED PLOT PLAN

LEGAL DESCRIPTION:

A TRACT OF LAND CONTAINING 3.00 ACRES, MORE OR LESS, LOCATED IN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 36 BEARS N00°01'E, A DISTANCE OF 2,246.1 FEET; THENCE S89°59'W, A DISTANCE OF 380.0 FEET; THENCE S00°01'W, A DISTANCE OF 343.9 FEET; THENCE S89°59'E, A DISTANCE OF 380.0 FEET; THENCE N00°01'E, A DISTANCE OF 343.9 FEET TO THE POINT OF BEGINNING.

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 676 NEW MEXICO JOHN W. WEST

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

JOHN W WEST, NM PE & LS No 676
TEXAS RPS No 1138
RONALD J. EIDSON, NM LS No 3239
TEXAS RPS No 1883

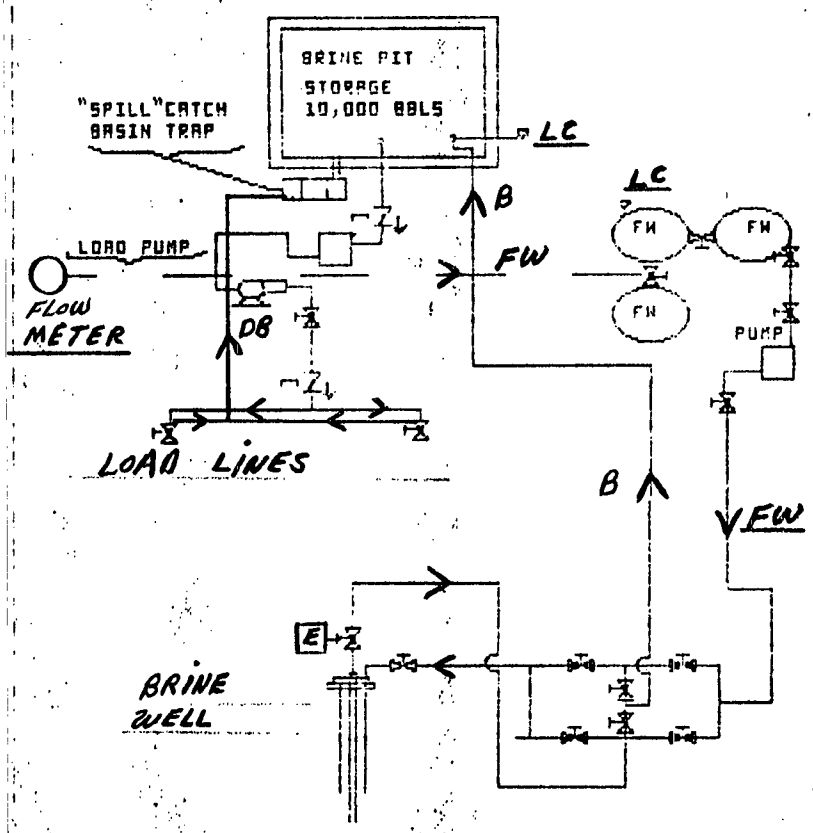
ROELAND TRUCKING
A Division of Unichem International

BOUNDRY AND TOPOGRAPHY SURVEY OF 3.00 ACRE TRACT WITHIN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

JOHN W. WEST ENGINEERING COMPANY
CONSULTING ENGINEERS HOBBS, NEW MEXICO

Scale: 1" = 100'		Drawn By: C. Brown	
Date: 1/8/86	Ck.	Sheet 1 of 1	Sheets

EXHIBIT 2 - PIPING SCHEMATIC



B - BRINE

FW - FRESH WATER

LC - LEVEL CONTROL

DB - DRAIN BACK

CARLSBAD BRINE ST	
PROPOSED FLOW SCHEMATIC	
DRW BY - LWP -	3-13-86

L059-1A
REPORT NUMBER

A & L PLAINS AGRICULTURAL LABORATORIES, INC.
P.O. BOX 1590, 302 34TH STREET, LUBBOCK, TX. 79408
806-763-4278

FEB. 28, 1986

EXHIBIT 3a - SOIL SAMPLE RESULTS

UNICHEM INTERNATIONAL
ATTN: WAYNE PRICE
P.O. BOX 1499
HOBBS, NM 88240

Subject:

LAB #:	SAMPLE MARKED:	CHLORIDES PPM
23	#1-5'	260
24	#2a-2'	25400
25	#2b-5'	28000
26	#3-5'	23600
27	#4A-2'	39000
28	#4B-5'	27800
29	BRINE PIT; NORTH OF CEMENT PIT	33800

RESPECTFULLY SUBMITTED,

E.A. Coleman

E.A. COLEMAN

CC still very high at max. depth they checked -

Where were samples taken?

C-322/Rev. 10-77

EXHIBIT 3b - MAP CORRESPONDING TO EXHIBIT 3a

DATE 1/28/86
DRAWN LWP

CARLSBAD BRINE STATION

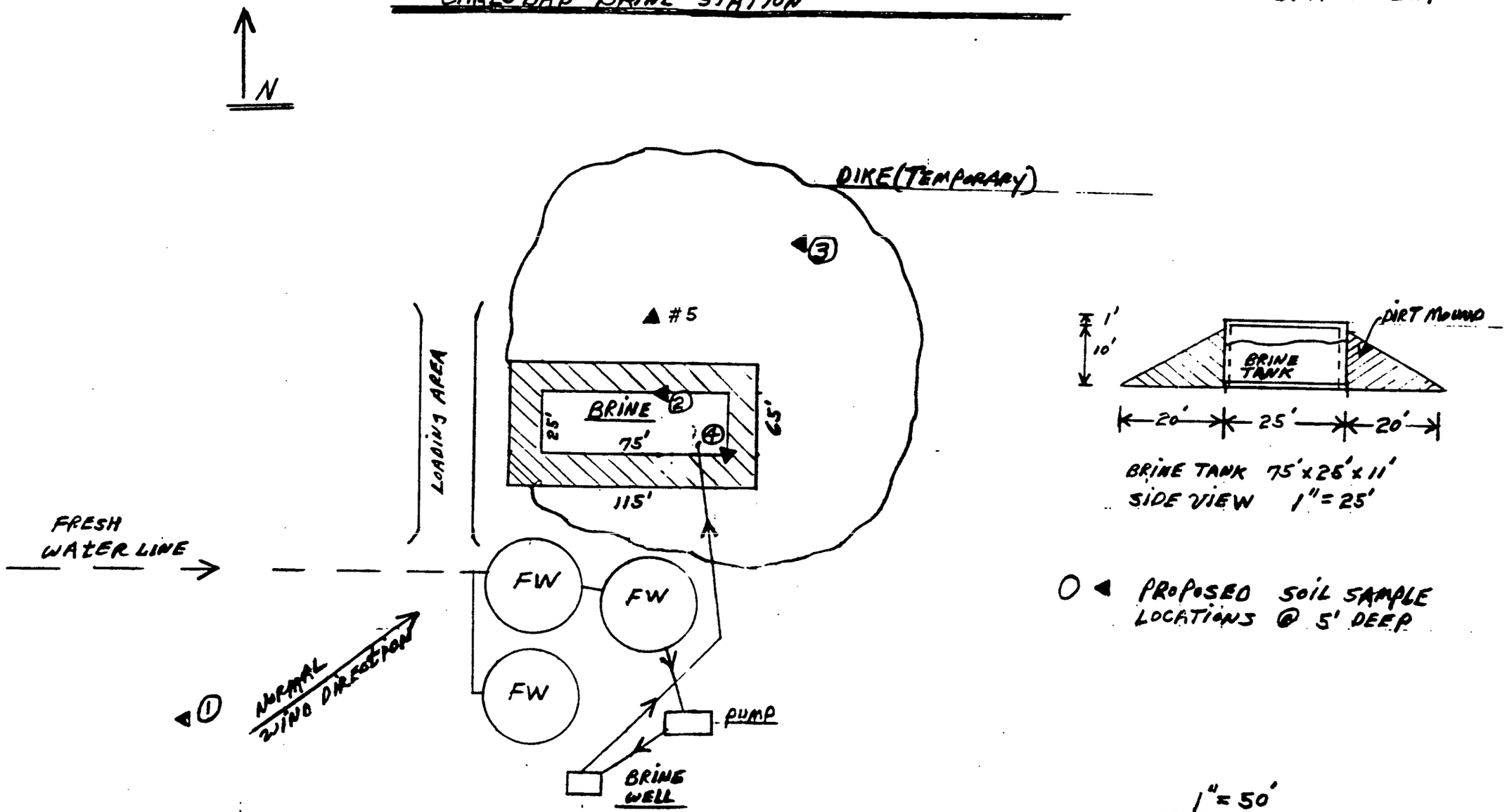


EXHIBIT 3c - PROCEDURES

AGRONOMY

A Series of Monographs Published by the
AMERICAN SOCIETY OF AGRONOMY

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9 C. A. BLACK, *Editor-in-Chief,* and D. D. EVANS, J. L. WHITE, L. E. ENSMINGER, and F. E. CLARK, *Associate Editors:* Methods of Soil Analysis, 1965

Part 1—Physical and Mineralogical Properties, Including Statistics of Measurement and Sampling
Part 2—Chemical and Microbiological Properties
Managing Editor, R. C. DINAUER

Monographs 1 through 6, published by Academic Press, Inc., should be ordered from:

Academic Press, Inc.
111 Fifth Avenue
New York, New York 10003

Monographs 7, 8, and 9, published by the American Society of Agronomy, should be ordered from:

American Society of Agronomy
677 South Segoe Road
Madison, Wisconsin, USA 53711

METHODS OF SOIL ANALYSIS

Part 2

Chemical and Microbiological Properties

C. A. BLACK, *Editor-in-Chief*
and
D. D. EVANS L. E. ENSMINGER
J. L. WHITE F. E. CLARK
Associate Editors

R. C. DINAUER, *Managing Editor*

Sponsored jointly by the
AMERICAN SOCIETY OF AGRONOMY
and
AMERICAN SOCIETY FOR TESTING AND MATERIALS

Number 9 in the series
AGRONOMY

American Society of Agronomy, Inc., *Publisher*
Madison, Wisconsin, USA
1965

with a standard solution of a strong acid provides a measure of CO_3^{2-}, and further titration to the methyl orange end point provides a measure of HCO_3^-.

62–3.4.2 METHOD[5]

62–3.4.2.1 Special Apparatus.

1. Magnetic stirrer.
2. Titration assembly including a 10-ml. buret.

62–3.4.2.2 Reagents.

1. Phenolphthalein indicator: Dissolve 0.25 g. of phenolphthalein in 100 ml. of 50% alcohol.
2. Methyl orange indicator: Dissolve 0.1 g. of methyl orange in 100 ml. of water.
3. Sulfuric acid (H_2SO_4), standard, 0.01*N*.

62–3.4.2.3 Procedure. Pipet an aliquot (usually 5 ml.) of the soil-water extract, containing not more than 0.05 me. of HCO_3^-, into a beaker. Place the beaker in the titration assembly, and start the stirrer. Add 2 drops of phenolphthalein (reagent 1) and, if a pink color is produced, titrate the solution with standard H_2SO_4 (reagent 3), adding a drop every 2 or 3 seconds, until the pink color disappears. Note the buret reading. To the colorless solution from this titration, or to the original solution if no color is produced with phenolphthalein, add 1 or 2 drops of methyl orange (reagent 2), and continue the titration to the methyl orange end point without refilling the buret. Note the total reading of the buret. Reserve the solution for the determination of chloride. Make blank determinations after adding the appropriate reagents to CO_2-free water, and make corrections if necessary.

Calculations:

me. of CO_3^{2-} per liter

$$= \frac{1{,}000}{\text{ml. of sample}} \times (2P \times \text{Normality of standard } H_2SO_4)$$

where P = ml. of standard H_2SO_4 required to reach the phenolphthalein end point.

me. of HCO_3^- per liter

$$= \frac{1{,}000}{\text{ml. of sample}} (T - \text{blank} - 2P) \times (\text{Normality of standard } H_2SO_4)$$

where T = total ml. of standard H_2SO_4 required to reach the methyl orange end point, and P = ml. of standard H_2SO_4 required to reach the phenolphthalein end point.

[5] U. S. Salinity Laboratory Staff (1954).

Table 62–2. The titration of hydroxide, carbonate, and bicarbonate ions in the presence of phenolphthalein and methyl orange indicators.

Result of titration*	Titration value related to each ion		
	Hydroxide	Carbonate	Bicarbonate
P = 0	0	0	T
P < 1/2 T	0	2P	T - 2P
P = 1/2 T	0	2P	0
P > 1/2 T	2P - T	2(T - P)	0
P = T	T	0	0

* P = ml. of standard strong acid used in titration to the phenolphthalein end point.
T = total ml. of standard strong acid used in titration to the methyl orange end point.

To facilitate calculations, a table similar to that shown in Am. Public Health Assoc. standard methods (1960) is included (Table 62–2). Report the results to 3 significant figures, but do not report more than 1 place to the right of the decimal.

62–3.4.2.4 Comments. The results of the titrations are satisfactorily reproducible and are generally accurate to about 0.1 me. per liter.

Water extracts from sodic soils are often so dark in color that it is difficult or impossible to titrate CO_3^{2-} and HCO_3^- with color indicators. Under such circumstances, the titrations can be made by using a glass electrode pH meter instead of the indicators. Carbonate is titrated to pH 8.2, and HCO_3^- to pH 4.5.

62–3.5 Chloride

62–3.5.1 INTRODUCTION

The chlorides of Ca, Mg, K, and Na are all very soluble. Chloride is usually the principal anion in extracts of saline soils, and the concentration may reach several hundred me. per liter.

Chloride is specifically toxic to some tree and vine crops. Chloride is more toxic to many plants where present as $CaCl_2$ than as NaCl (U. S. Salinity Laboratory Staff, 1954).

The well-known Mohr volumetric method is satisfactory for the determination of chloride in aqueous soil extracts. The chloride is titrated with a standard silver nitrate solution, using potassium chromate as the indicator. As the equivalence point is passed, the excess of silver combines with the chromate to form a red or reddish-brown precipitate of silver chromate. This color change is easily recognized and serves as the end point of the titration. Other methods for chloride are found in sections 81–3 and 81–4.

62–3.5.2 METHOD

62–3.5.2.1 Special Apparatus.

1. Magnetic stirrer.
2. Titration assembly including a 10-ml. buret.

62–3.5.2.2 Reagents.

1. Potassium chromate (K_2CrO_4) indicator: Dissolve 5 g. of K_2CrO_4 in approximately 75 ml. of water. Add a saturated solution of $AgNO_3$ until a small quantity of red Ag_2CrO_4 precipitates. Set the solution in the dark for 24 hours. Then filter it to remove the Ag_2CrO_4, and make the volume to 100 ml.
2. Standard silver nitrate ($AgNO_3$) solution, 0.025*N*: Dissolve 4.2472 g. of $AgNO_3$ in water, and dilute the solution to a volume of 1 liter. Check the normality by titrating an aliquot of the 0.01*N* KCl conductivity reference solution reagent (section 62–2.2.2).
3. Sodium bicarbonate ($NaHCO_3$), saturated solution: Renew the solution every few weeks because it has a tendency to lose CO_2 and become too alkaline. Dispense the solution from a dropping bottle.

62–3.5.2.3 Procedure. Place the solution from the carbonate-bicarbonate titration in the titration assembly, and start the stirrer. If this solution is not available, take a new aliquot of the sample. Adjust the pH with $NaHCO_3$ solution (reagent 3) so that the solution is alkaline to methyl orange but acid to phenolphthalein. Usually a single drop of the $NaHCO_3$ solution is sufficient. Add K_2CrO_4 indicator (reagent 1), 1 drop per 5-ml. aliquot, and titrate the solution with the standard silver nitrate (reagent 2) until the appearance of a red or reddish-brown precipitate.

Determine a blank correction by titrating a like volume of Cl-free distilled water. The normal blank correction is 0.02 to 0.05 ml., depending on the final volume.

Calculation:

$$\text{me. of Cl per liter} = \frac{1{,}000}{\text{ml. of sample}} \times (\text{ml. of } AgNO_3 - \text{blank}) \times \text{Normality of } AgNO_3.$$

62–3.5.2.4 Comments. The end point is sharper if the titration is done under a yellow light.

In general, the reproducibility and accuracy are of the order of 0.05 me. per liter in the aliquot titrated.

Difficulty is encountered if the solutions are highly colored, as may happen with extracts from sodic soils. These can be titrated potentiometrically, using an Ag-AgCl half-cell, as described in section 81–3.

62–3.6 Boron

62–3.6.1 INTRODUCTION

Boron tends to accumulate along with other salts in saline soils. Concentrations of B in the range of 5 to 25 ppm. are of frequent occurrence, and values of several hundred ppm. have been observed. High-boron conditions have been found in many of the irrigated areas of the world. Boron can be leached from the soil, but several times as much water is required as is necessary to reclaim an ordinary saline soil (Reeve et al., 1955).

Methods for the determination of B that are used for boron-deficiency studies are not well adapted to toxicity problems. The concentration range, without dilution, is much too low. The method described below was developed for toxicity studies and has several distinct advantages for this purpose. The concentration range, without dilution, is better suited for toxicity investigations. The reagent is stable for months. The color developed in the sample shows little or no change between 45 minutes and 4 hours and obeys the Beer-Lambert law. Time-consuming operations, such as overnight drying, evaporation on a water bath, incubation, or centrifugation, are seldom required. The analysis of a single sample can be completed in from 1 to 2 hours, and a series of samples can be run in 2 to 3 hours.

Carmine or carminic acid in concentrated H_2SO_4 changes from a bright red to a bluish red or blue, depending on the concentration of B present.

Nitrate and nitrite are the only constituents commonly found in soil extracts that interfere, and these are destroyed by the addition of a few drops of concentrated HCl.

62–3.6.2 METHOD[6]

62–3.6.2.1 Special Apparatus.

1. A spectrophotometer with matched square cuvettes. (A Coleman Model 14 Universal spectrophotometer with 13 by 13 by 105 mm. cuvettes is satisfactory.)
2. Flasks, alkali-resistant (boron-free). (Extraction flasks, flat bottom, 100 ml., of Corning alkali-resistant glass No. 7280 are satisfactory.)

62–3.6.2.2 Reagents. Store all reagents in polyethylene or other boron-free containers.

1. Sodium hydroxide (NaOH), approximately 1*N*: Dissolve 4 g. of NaOH in water, and dilute the solution to a volume of 100 ml.
2. Hydrochloric acid (HCl), concentrated (12*N*).
3. Hydrochloric acid (HCl), approximately 1*N*: Dilute 10 ml. of concentrated HCl to 100 ml. with distilled water.
4. Sulfuric acid (H_2SO_4), concentrated (36*N*).

[6] Hatcher and Wilcox (1950) and U. S. Salinity Laboratory Staff (1954).

UNICHEM
INTERNATIONAL

EXHIBIT 4

Complete brine well history, data, information, transmittals, miscellaneous letters, etc. for EID files.

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

December 2, 1982

Mr. Oscar Simpson
Energy and Minerals Department
Oil Conservation Division

RE: Discharge Plans for Brine Wells
in southeast New Mexico

Dear Sir:

In response to your letter of October 6, 1982, the following information is respectfully submitted:

1. The topographic maps as requested were not available locally and were obtained from the Denver Mapping Service of the USGS. The 7.5 minute series were not available in all instances. The next largest series were selected.

2. The detailed schematic diagrams of each well that was previously submitted has been transposed to the prescribed "injection well data sheet" of the OCD.

3. Two of the wells used as brine wells have been converted to brine wells from old abandoned oil wells; complete history's are not available. The information used in preparing schematics and filling out the data sheets has been accumulated from the files of the office of the OCD.

   The other two wells included in the application were drilled by the Company for the sole purpose of creating a brine well. None of the four wells have been worked over; i.e., they are all producing from the same interval in the salt section as they were originally completed. The only service and/or maintenance that has been necessary has been to pull log occasionally to remove salt buildup and/or replace the bottom jts of tbg that have been mechanically damaged by that salt buildup and/or caving in the salt section. Fresh water is metered in all cases and compared to brine water produced, and there has never been an occasion to suspicion a loss of fluid sub-surface. In three of the brine stations, the water is purchased from the City and is taken, metered, and paid for from the City fresh water distribution lines. Obviously a discrepancy would quickly be noted if fresh water were being lost.

During periods of high level activity, the wells are checked on a daily basis to insure that sufficient quantities of water are available for sale. The sales meter is checked against signed tickets to insure that sales are being recorded. Pressures on the well are checked to insure that there are no malfunctions downhole, and the pump is working properly. Three of the brine stations have storage facilities above ground, and any failures in the storage facilities becomes very evident. The other storage facility is in a pit, fabricated in accordance to OCD specifications and has been inspected and approved by the OCD, and is monitored regularly by that agency. The observations of water quantities, qualities, and pressures involved in production of the wells has been the only method of so-called "mechanical integrity testing" that has been done.

4. Three of the brine stations: Trucker's Brine Well #2 in Hobbs, Eunice Brine Well, and City of Carlsbad Brine Well, use potable water from each City's fresh water lines as a supply. We have not in the past had that water analyzed. Trucker's Brine Well #1 has a water well as a supply system. An analysis of the water well supply as well as one of each of the municipal systems is attached to the individual brine well discharge plans.

5. Yearly totals of brine produced for each well are attached to the individual discharge plans.

6. Trucker's Brine Station in Hobbs is the only facility that uses a pit for storage; the permit number is LP-H-107 (copy attached).

7. Detailed information on the type of liner used in the Hobbs pit is attached. A schematic of the pit construction and the monitoring system is attached.

8. All four of the brine stations are operated in the same manner as discussed in Item #3. The frequency of inspection is, generally speaking, daily, but again depends on sales volumes. In any case, the frequency of inspection is never greater than weekly.

9. With the exception of the Carlsbad brine station, all of the stations have ground water in existence. The formation producing the ground water is the Ogalalla aquifer. The top of which is $\pm$ 60 feet in all cases. There is no ground water above the salt section at the Carlsbad brine well.

   As mentioned in the original discharge plan, the well was drilled with cable tools in hopes that a fresh water aquifer would be found and evaluated. None was encountered, and it was necessary to negotiate with the City of Carlsbad for the fresh water supply.

10. (a) In the instance of the Carlsbad facility, and referring to the USGS topographic map as attached, the major drainage system for the area is the Pecos River. The brine station is one mile east of the Carlsbad City Airport on land used at one time by the Federal Government as an ammunition storage depot. There has never been a history of flooding in the area.

10. (b). Trucker's Brine Well #2 is in the Hobbs city limits. Major flood drainage exists to the south and southeast. The drainage system is well maintained, and major flooding in the area has not been a problem.

    (c). Trucker's Brine Well #1 is located approximately 20 miles west of Hobbs on the edge of the Caprock. Drainage exists to the southwest into Iron Horse Draw. The brine station sits on a local high area and has never had a problem with flooding.

    (d). The Eunice Brine Well is located within the city limits of Eunice in the southwest corner of town. Drainage exists to the southeast, as in evidence in the attached USGS topographic map. The drainage is extreme and flooding has never existed at this station.

11. Since all of the brine stations are in the city limits or farming and ranching areas, there are numerous water wells that have been drilled in the proximity of the stations. We requested information from the State Engineer's Office on wells in the areas, and have attached re-productions from their card system in their files to each discharge plan. Many of the wells that have been permitted no longer exist, but were probably just abandoned and capped but not plugged.

12. Since you will be given a personal tour and explanation of the functions of each station, we have not taken photographs of the stations, but will provide those pending your requests during the field trip.

13. The metering devices used at the brine stations are of the same type used by the cities in metering water for commercial use. We do have a rather complex system for accounting for water purchased and comparing it to water that is sold.

14. A blanket plugging bond is used by the Company because of the number of wells that we own and operate. A copy of the plugging bond is attached.

We hope we have answered all of your questions as required in your letter. Should there be further questions, please advise.

Very truly yours,

UNICHEM INTERNATIONAL INC.

Robert J. Brakey
Vice President

RJB/ds

Attachments

	Eunice Brine Sls	Buckeye Brine Sls 1/1/1944	Carlsbad Brine Sls 1/1/1926	Hobbs Brine Sls
1965	106,414 BBLS	Purchased from Industrial Liquids - Already in Production		
1966	172,056 BBLS			
1967	80,002 BBLS			
1968	313,571 BBLS	47,977 BBLS		
1969	133,137 BBLS	74,242 BBLS		
1970	54,344 BBLS	107,777 BBLS		
1971	55,116 BBLS	234,358 BBLS		
1972	122,609 BBLS	343,850 BBLS		
1973	153,402 BBLS	89,941 BBLS		
1974	414,214 BBLS	161,745 BBLS		
1975	426,767 BBLS	72,784 BBLS		
1976	371,198 BBLS	116,319 BBLS	440,288 BBLS	
1977	449,342 BBLS	230,399 BBLS	306,829 BBLS	
1978	352,691 BBLS	221,032 BBLS	522,681 BBLS	
1979	431,313 BBLS	457,178 BBLS	370,845 BBLS	
1980	615,186 BBLS	451,445 BBLS	377,217 BBLS	42,666 BBLS
1981	504,418 BBLS	212,248 BBLS	443,986 BBLS	336,606 BBLS
1982 - Jan thru Sept	206,603 BBLS	201,251 BBLS	335,330 BBLS	156,611 BBLS
Totals	6015,958 BBLS	2,986,599 BBLS	3,400,624 BBLS	535,883 BBLS

Annual Brine production from Sales Reports

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

Unit H

September 20, 1982

Mr. Joe Ramey
Energy and Minerals Department
Oil Conservation Division

RE: Brine Well Discharge Plan
City of Carlsbad
S 36-T22S-R26E Unit H
Eddy County, New Mexico

Dear Sir:

Attached herewith are schematic diagrams of the brine wells and surface facility in Carlsbad, New Mexico.

The brine well was drilled specifically by us, for use in producing brine. It was drilled using cable tools to also determine the possibility of a fresh water supply. We did not penetrate any fresh water bearing zones, and had to add water to drill the entire hole.

The surface storage facility is an old World War II ammunition storage building that we reinforced and lined with gunnite. The storage and well are monitored daily by one of our supervisors who lives on location.

During 1980-81, 800,000 barrels of brine was produced at this facility. The quality of the brine is checked frequently in our laboratory in Hobbs.

We trust this meets your requirement for a suitable discharge plan and meets with your approval.

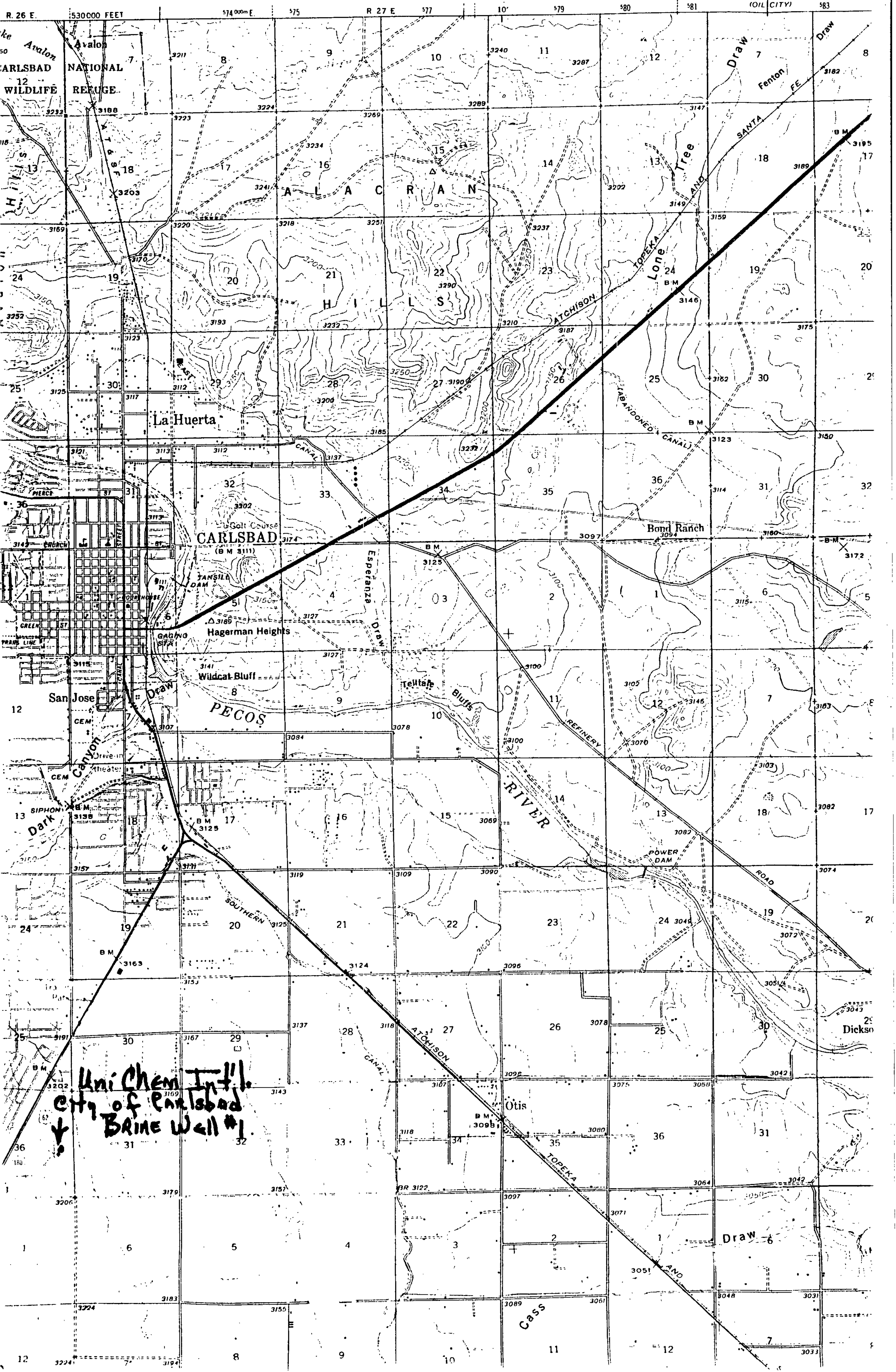
Very truly yours,

UNICHEM INTERNATIONAL INC.

R. J. Brakey
Vice President

RJB/js

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



R. 26 E.
R 27 E
Avalon
CARLSBAD NATIONAL WILDLIFE REFUGE
ALACRAN HILLS
Lone Tree Draw
Fenton Draw
ATCHISON TOPEKA AND SANTA FE
La Huerta
CARLSBAD
Golf Course
TANSILL DAM
Hagerman Heights
GAGING STA
Wildcat Bluff
San Jose
Dark Canyon Draw
Drive-in theater
CEM
SIPHON
Esperanza Draw
Telltale Bluffs
PECOS RIVER
ABANDONED CANAL
Bond Ranch
REFINERY ROAD
POWER DAM
SOUTHERN CANAL
Otis
Dickson
Cass Draw
Uni Chem Int'l.
City of Carlsbad
Brine Well #1

Beine ~~INJECTION~~ WELL DATA SHEET

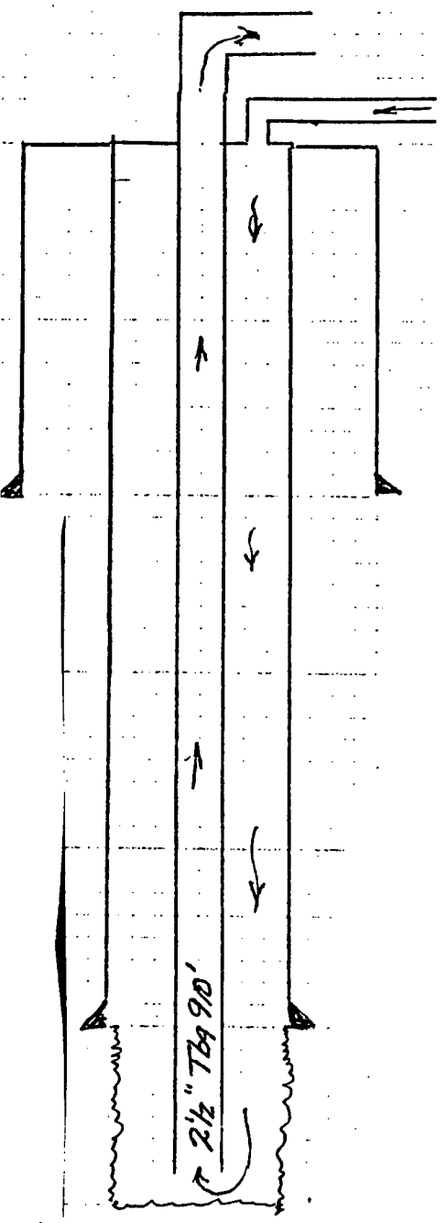
Unichem International — City of Carlsbad

OPERATOR — LEASE

#1 — FOOTAGE LOCATION — 36 SECTION — 22S TOWNSHIP — 26E RANGE

Eddy Co, NM.

Schematic



Tabular Data

Surface Casing

Size 8 5/8", 24# Cemented with 225 sx.

TOC Circ feet determined by _____

Hole size 11"

Intermediate Casing

Size None" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5½" 15.5# Cemented with 150 sx.

TOC Circulated feet determined by _____

Hole size 7⅞

Total depth 930

~~Injection~~ interval open Hole

_____ feet to _____ feet
(perforated or open-hole, indicate which)

Drillers Log

0-10' Caliche
10-350 Red Bed + Anyhydrite
350-710 Anyhydeite + Sh
710-930 Salt + Anyhydrite.

Tubing size 2½" lined with Unlined (material) set in a

None (brand and model) packer at _____ feet.

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Salt
2. Name of Field or Pool (if applicable) _____
3. Is this a new well drilled for injection? [X] Yes [ ] No

   If no, for what purpose was the well originally drilled? _____
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No.
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

   None overlying

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

October 23, 1981

New Mexico Oil Conservation Commission
P. O. Drawer "DD"
Artesia, New Mexico 88210

ATTN: Mr. Larry Brooks

Gentltmen:

In answer to your request, the following is a general production history of our brine well, City of Carlsbad # 1, located in Unit letter H, 2420' from the north line and 330' from the east line of Section 36, Township 22 South, Range 26 East, Eddy County, New Mexico.

Application to drill was filed in May, 1976, drilling completed and the well put into production in August, 1976. Brine water is produced by pumping fresh water from the City of Carlsbad with an auxiliary pump at the rate of 225 psi into the salt section at approximately 742 feet. Brine water can be produced at a rate of 160 barrels per hour. Storage capacity at the well site is 3000 barrels. A brine sales meter was installed in December, 1978, which is used to meter production of brine. Fresh water meters belong to the City of Carlsbad.

The following is a breakdown by month of brine production based on actual sales by the barrel.

8/76	150	5/77	29380	2/78	61340	11/78	17277
9/76	5788	6/77	18680	3/78	62244	12/78	42445
10/76	5180	7/77	31745	4/78	17713	1/79	46220
11/76	14660	8/77	30455	5/78	23565	2/79	26843
12/76	18250	9/77	44920	6/78	34326	3/79	22060
1/77	13272	10/77	16189	7/78	70789	4/79	26140
2/77	21795	11/77	29295	8/78	46808	5/79	14940
3/77	15225	12/77	31608	9/78	49740	6/79	26235
4/77	24265	1/78	57986	10/78	38456	7/79	32180

THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

DUE TO

THE CONDITION OF

THE ORIGINAL

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

8/79	57339	3/80	20573	10/80	39155	5/81	26795
9/79	25662	4/80	34415	11/80	35865	6/81	33447
10/79	40065	5/80	41195	12/80	51988	7/81	51910
11/79	31274	6/80	25525	1/81	32247	8/81	30195
12/79	21587	7/80	32953	2/81	31955	9/81	39649
1/80	35918	8/80	19440	3/81	34670		
2/80	18435	9/80	21755	4/81	44265		

We are enclosing a copy of the water analysis of the brine water produced from this well.

If there is any additional information you need, please contact us.

Yours truly,

Eunice Rental Tool Co. Division
UNICHEM INTERNATIONAL, INC.

Mary Hughes

Office Manager

MH/s

Encl:

TELEPHONE: HOBBS 393-7751
AREA CODE - 505

KE-TONE®

UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH
P. O. BOX 1499
HOBBS, NEW MEXICO 88240

Company Rowland Trucking

Field

Lease Carlsbad Brine Well Sampling Date 9-14-77

Type of Sample Trucker's Brine

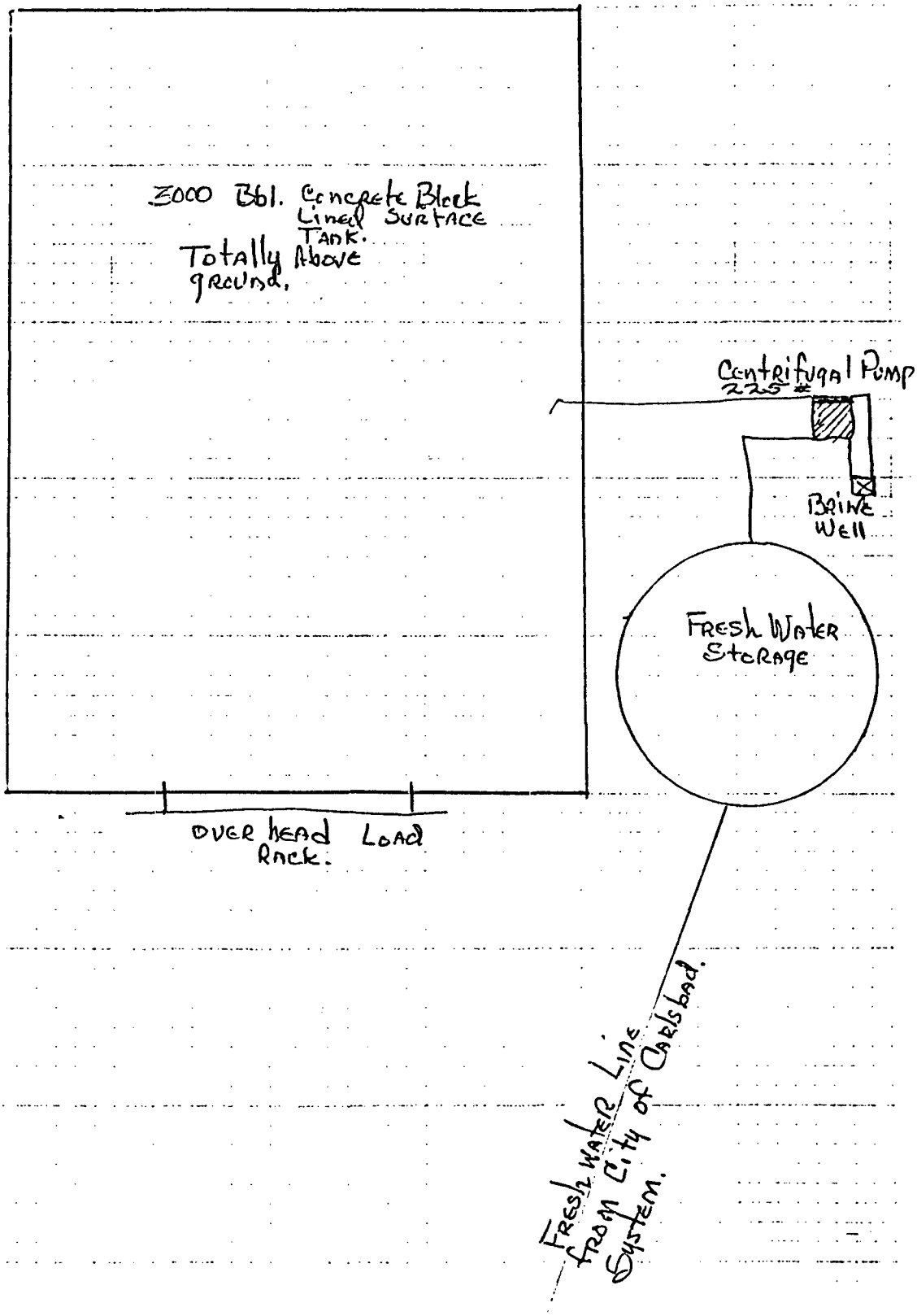
WATER ANALYSIS

IONIC FORM		me/l *	mg/l *
n (Ca++)		90.00	1,800
sium (Mg++)		42.00	504
ı (Na+)	(CALCULATED)	5,265.89	121,063
otal)			2
nate (HCO,)		2.60	159
ate (CO ; -)		Not	Found
ide (OH-)		Not	Found
e (SO, -)		93.69	4,500
e (Cl-)		5,301.60	188,000
ssolved Solids			316,026
ph c 68 °F			
d Solids on Evap. at 103°- 105° C			
s as Ca CO,		132.00	6,600
te Hardness as CaCO, (temporary)		2.60	130
rbonate Hardness as CaCO, (permanent)		129.40	6,470
y as CaCO,		2.60	130
Gravity c 68° F	1.195		

* mg/l = milligrams per Liter
* me/l = milliequivalents per Liter

Makes Water Work

City of Carlsbad
Brine Storage facility



STATE OF NEW MEXICO

Revised 6-17-77

$50,000.00 BLANKET PLUGGING BOND

BOND NO. 4446488
(For Use of Surety Company)

(Note: File with Oil Conservation Commission, P. O. Box 2088, Santa Fe 87501)

KNOW ALL MEN BY THESE PRESENTS:

That Unichem International, Inc., et al. (~~Xxxxxxxxxx~~) (a partnership) (a corporation organized in the State of New Mexico, with its principal office in the city of Hobbs, State of New Mexico, and authorized to do business in the State of New Mexico), as PRINCIPAL, and HARTFORD ACCIDENT & INDEMNITY, a corporation organized and existing under the laws of the State of Connecticut, and authorized to do business in the State of New Mexico, as SURETY, are held firmly bound unto the State of New Mexico, for the use and benefit of the Oil Conservation Commission of New Mexico pursuant to Section 65-3-11, New Mexico Statutes Annotated, 1953 Compilation, as amended, in the sum of Fifty Thousand Dollars ($50,000.00) lawful money of the United States, for the payment of which, well and truly to be made, said PRINCIPAL and SURETY hereby bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that:

WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide (CO_2) gas leases, or helium gas leases with the State of New Mexico; and

WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide (CO_2) gas leases, or helium gas leases on lands patented by the United States of America to private individuals, and on lands otherwise owned by private individuals; and

WHEREAS, The above principal, individually, or in association with one or more other parties, has commenced or may commence the drilling of wells to prospect for and produce oil or gas, or carbon dioxide (CO_2) gas or helium gas, or does own or may acquire, own or operate such wells, or such wells started by others on land embraced in said State oil and gas leases, or carbon dioxide (CO_2) gas leases, or helium gas leases, and on lands patented by the United States of America to private individuals, and on lands otherwise owned by private individuals, the identification and location of said wells being expressly waived by both principal and surety hereto.

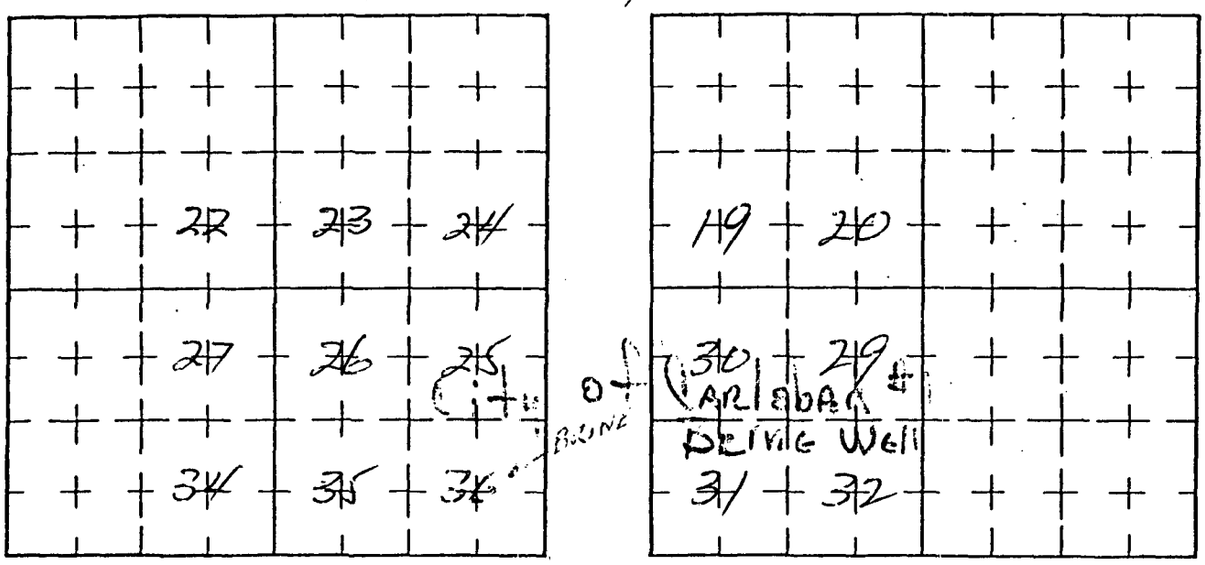
NOW, THEREFORE, If the above bounden principal and surety or either of them or their successors or assigns, or any of them, shall plug all of said wells when dry or when abandoned in accordance with the rules, regulations, and orders of the Oil Conservation Commission of New Mexico in such way as to confine the oil, gas, and water in the strata in which they are found, and to prevent them from escaping into other strata;

THEN, THEREFORE, This obligation shall be null and void; otherwise and in default of complete compliance with any and all of said obligations, the same shall remain in full force and effect.

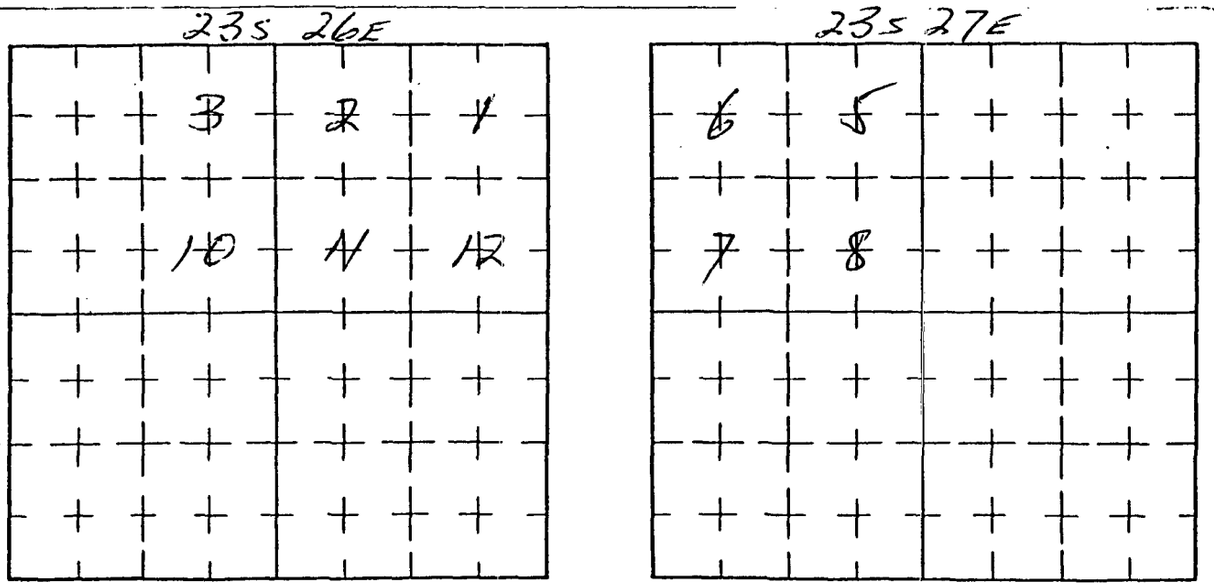
PROVIDED, HOWEVER, That thirty (30) days after receipt by the Oil Conservation Commission of New Mexico of written notice of cancellation from the surety, the obligation of the surety hereunder shall terminate as to property or wells acquired, drilled, or started after said thirty (30) day period but shall continue in effect, notwithstanding said notice, as to property or wells theretofore acquired, drilled, or started.

Sec._____T._____R._____ Sec._____T._____R._____

22S 26E EDDY Co. 22S 27E



23S 26E 23S 27E



Section 22 Township 22 South Range 26 East

C-1133	SE¼	Domestic
C-1513	NW¼	Domestic

Sec. 23 Twp. 22 S. Card 1. Rge 26 E

C-402	NE¼	Dom
C-405	SW¼SE¼	Dom
C-671	NE¼NE¼NE¼	Dom
C-672	NE¼NE¼	Dom
C-742	NW¼NW¼NE¼	Dom
C-558	NE¼SW¼NW¼	Dom
C-848	SE¼SE¼SW¼	Dom
C-867	NW¼NW¼NE¼	Dom
C-762	N½E½SW¼NE¼	Dom
C-924	N½SW¼NE¼	Dom.
C-941	N½SW¼NE¼	Dom.
C-997	NE¼NW¼NE¼	Dom
C-1309	NW¼SW¼SE¼	Dom.
C-1335	NE¼NW¼NE¼	Dom.
C-1347	SW¼NE¼NE¼	Dom.
C-1410	Shallow SE¼NE¼SW¼NE¼	Dom.
C-1467	N½NE¼ 23-22-26 domestic-stock	
C-1514	Pt. N½SW¼NE¼	dom
C-1574	SW¼NE¼NE¼ Domestic & stock	
C-1600	N½SW¼NE¼ Domestic	
C-1630	SE¼SW¼ Dom. & Stock	
C-1666	N½SW¼NE¼ Domestic	
C-1698	SE¼NW¼SE¼ Domestic	
C-1752	NW¼SE¼ Domestic & Stock	
C-1764	Domestic	
C-1769	NE¼NW¼SE¼ Domestic & Stock	
C-1778	S½NW¼NE¼ Domestic & Stock	

Sec. 23 Township 22 South Card 2 Range 26 East

C-1780	SW¼SW¼NE¼NE¼ Domestic & Stock
C-1796	NW¼SE¼ Domestic & Stock
C-1804	NW¼NE¼ Domestic & Stock
C-1846	NE¼ Dom. & Stk.
C-1876	SW¼NW¼SE¼, 23-22S-26E - Dom. & Stock
C-1894	- NW¼NE¼, 23-22S-26E - Domestic
C-1918	- NW¼SE¼, Domestic
C-1933	NW¼NE¼ - Domestic
C-1981	SE¼SW¼NE¼ Domestic
C-2023	NW¼NE¼ - Domestic
C-2029	NW¼SE¼ 23-22S-26E - Domestic
C-2035	SE¼NE¼ 23-22S-26E - Domestic & Stock

Sec. 24	Twp. 22 S.	Rge E.
C-59		
C-199	NE¼SW¼SW¼	Dom cancelled
C-331	SW¼	Dom
C-490	SW¼	CANCELLED
C-651	Lot 22, Walling Heights	cancelled
C-845	N. Pt. Lot 17 Walling H.	Dom
C-972	NW¼SE¼SW¼	Dom.
C-1144	SW¼ Lot 19 Walling Hts.	Dom.
C-1269	SW¼	Dom.
C-1282	NW¼NW¼	Dom.
C-1425	SW¼SW¼SW¼	Shal. Stock Domestic
C-1471	SW¼SW¼SW¼ 24-22-26	dom.
C-1911	SW¼ Domestic	
C-1939	SW¼	Domestic & Stock

Sec. 25	Twp. 22 S.	Rge 26 E.	
C-90		Dom	
C-167	NW¼SE¼SE¼	Dom	
C-198	SE¼	Dom	
C-223	NW¼		
C-224	NW¼		
C-225	NW¼		
C-226	NW¼	Dom	
C-244	NW¼	Dom	
C-245	NW¼	Dom	CANCELLED
C-296	NW¼		
C-277	SW¼SE¼SE¼	Dom	
C-325	NW¼	Dom	
C-324	NW¼	Dom	

Card II

Sec. 25	Twp. 22 S.	Rge 26 E.	
C-334	NW¼	Dom	
C-338	NW¼	Dom	
C-358	NW¼	Dom	
C-366	NE¼	Oil 0-2-E-34	
C-401	CANCELLED	Dom	
C-435	NW¼	Dom	
C-225	NW¼		
C-452	NW¼	Dom	
C-529	SE¼SE¼NE¼	Dom	
C-568	NW¼NE¼	Dom	CANCELLED
C-579	SW¼SE¼NW¼	Dom	

Card III

Sec. 25	Twp. 22 S.	Rge 26 E.	
C-193-A	SE¼NW¼NE¼	6 ac.	CANCELLED
C-227	SE¼NW¼SE¼	Dom	
C-609	N½NE¼ Cancelled	Expl.	
C-639	N½SW¼NE¼NW¼	Dom	
C-666	NE¼NE¼NW¼	Dom	
C-223-C & C-533 Comb.	N½N½NE¼SW¼NW¼	2½ ac	
C-682 — REPLACED BY C-1772	NE¼NW¼NW¼	Dom	
C-723	E½SW¼NW¼NW¼	Dom	
C-735	E½E½NW¼	Dom	
C-737	Lot 19, Blk D. of Joel Sub. being a part of SE¼	Can. 2-29-60	
C-739	NE¼SE¼NW¼	Dom	

Card IV

Sec. 25	Twp. 22 S.	Rge 26 E.
C-225-A	NW¼NW¼NW¼	Irr.
C-225-B	E½SW¼NW¼NW¼	Irr.
C-761	Lot 5, Blk 5, Spencer Sub.	Dom
C-789	E½E½NW¼	Dom
C-763	N½SW¼SE¼NW¼	Dom
C-788	Lot 24, B. D. Joel Sub SE¼SE¼SE¼	Dom
C-568	NW¼NE¼	Dom
C-609	N½NE¼	Expl
C-579	SW¼SE¼NW¼	Dom
C-223-A & C-338 Comb.	E½NW¼NW¼NW¼	Irr denied

Card V

Sec. 25		
C-223-B	NW¼SW¼NW¼	Irr.
C-223-D	S½N½NE¼SW¼NW¼	IRr.
C-225-A & C-338 Comb.	NW¼NW¼NW¼	Irr.
C-269	NE¼NW¼NW¼	Irr.
C-482	SW¼SW¼NW¼	Dom
C-553	N½N½NE¼SW¼NW¼	Dom
C-826	W½ Lot 7 Spencer Sub	Dom
C-224 & C-255 Comb.	SE¼SE¼NW¼	
C-553	N½N½NE¼SW¼NW¼	Dom
C-873	SE¼SE¼NW¼	Dom
C-874	S½SE¼SE¼NW¼	Dom

Card VI

Section 25	Township 22 S.	Range 26 E.
C-878	SE¼NE¼NW¼	Domestic
C-902	NW¼SE¼SE¼	Dom
C-913	NE¼NW¼NW¼	Domestic
C-933	NW¼NE¼SE¼NW¼	Domestic
C-937	E½E½NW¼	Domestic
C-956	SE¼NE¼NW¼	Domestic
C-967	SE¼SE¼SE¼	Domestic
C-968	NW¼NW¼	Domestic
C-1013	Lot 19, Blk. D	Domestic
C-1024	Lot 4, Blk 6, Spencer Sub	Dom
C-1075	SE¼SE¼NW¼	Domestic
C-1076	SW¼NW¼NW¼	Domestic

Section 25	Township 22 South	Range 26 East
C-1121	SE¼SW¼NW¼	Dom.
C-1125	S½SW¼NE¼NW¼	Dom.
C-1127	SW¼NE¼NW¼	dom.
C-1135	E½E½NW¼	Dom.
C-1507	NW¼SE¼NW¼	dom-stk

Card VII

Section 25 Township 22 S. Range 26 E.

C-1141	E. 660' of $NW\frac{1}{4}$	Dom.
C-1149	$SE\frac{1}{4}$	Dom.
C-1153	$SW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$	Dom.
C-1193	$NW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1196	$SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1211	$NW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1235	$NW\frac{1}{4}NE\frac{1}{4}$	Expl.
C-1289	$SE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1369	$SW\frac{1}{4}NE\frac{1}{4}$	Dom
C-1370	$SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom
C-1372	$SE\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom.
C-1437	$E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}$	dom.
C-1439	$E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}$	Dom. &Stk.

C-1533 $NW\frac{1}{4}$ Domestic & Stock

C-1681 $NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$ Domestic

C-1739 Domestic

C-1756 $SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$ Domestic

C-1772 $NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$ Domestic and Stock REPLACES C-682

Sec. 26 Twn. 22S Rge. 26E

C-1053	$NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	dom.
C-1243	$SW\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1506	$SE\frac{1}{4}NE\frac{1}{4}$	dom-stock
C-1502	$NW\frac{1}{4}$	dom
C-1515	Pt. $NW\frac{1}{4}$	dom
C-1516	$NW\frac{1}{4}$	dom
C-1535	$NW\frac{1}{4}NW\frac{1}{4}$	Domestic & Stock
C-1655	$SE\frac{1}{4}SW\frac{1}{4}$	Domestic

C-1684 $NW\frac{1}{4}$ Domestic

C-1811 $NE\frac{1}{4}NW\frac{1}{4}$ Domestic & Stock

C-1863 $NW\frac{1}{4}NW\frac{1}{4}$ Domestic and Stock

C-1873 - $NW\frac{1}{4}$, Domestic

(Not Drilled)

C-1893 - $NE\frac{1}{4}NW\frac{1}{4}$ - Domestic /(Replaces well C-1630)

C-1998 - $NE\frac{1}{4}NW\frac{1}{4}$, 26-22S-26E - Domestic

Section 27 Township 22 South Range 26 East

C-1445 $N\frac{1}{2}SE\frac{1}{4}$ 27-22S-26E. Stock

C-1465 $NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ dom.

Section 35 Twp. 22 South Rge. 26 East

C-852 $NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ Decl.

Sec. 36	Twp. 22 South	Rge. 26 East
C-853	$NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Decl.
C-854	$NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Decl.
C-1018	$SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.

Sec. 19	Twp. 22 S	Rge 27 E
C-17		Dom
C-33		Dom
C-40		Dom
C42		Dom
C-457	SE¼	
C-621	SE¼NE¼	Decl.
C-451	SE¼NE¼	Irr

Sec. 19	Twp. 22 S.	Rge 27 E
C-621	SE¼NE¼	Decl.
C-912	SE¼NE¼	Dom & Sanitary

Sec. 20	Twp. 22 S	Rge 27 E
C-66		
C-67		
C-74 Enlgd.		
C-114	SW¼NW¼SE¼	Irr.
C-147	NW¼SW¼NW¼	Dom
C-163	W½NE¼SE¼SW¼	Dom
C-233	SW¼	
C-278	NW¼ CANCELLED	Dom
C-292	NE¼NE¼NW¼	IRr.
C-292-S	N½ & SE¼	
C-540	SW¼NW¼SW¼	80 ac.
C-541	SW¼SE¼NW¼	40 ac.
C-542	SW¼NW¼NW¼	42 ac

Card II

Sec. 20	Twp. 22	Rge 27
C-542-A	SW¼NW¼NW¼	18.7 ac
C-628	NE¼SW¼SW¼	Dom
C-667	SE¼SW¼SW¼	Dom
C-733	SE¼SW¼SW¼	Dom
C-748	Pt. NE¼, Pt. NW¼, Pt. SE¼	Expl. WITHDRAWN
C-130	NE¼NW¼NW¼	Decl.
C-292-A	NE¼NE¼NW¼	IRR.
C-542-A, C-540 C-541 Comb.	SW¼SE¼NW¼, SW¼NW¼SW¼	Irr.
C-74	NE¼SW¼SW¼	Irr.
C-806	NE¼SW¼SE¼	Dom.
C-1035	N½S½SW¼	Dom.
C-1048	SW¼SE¼SW¼	Dom.

(OVER)

Section 20	Township 22 South	Range 27 East
C-1246	SW¼SW¼SW¼	Irr.
C-1383	SE¼SW¼SW¼	dom.

C-1768 NE¼NW¼ Domestic & Stock
C-542-A,C-540,C-541-Comb.A - NW¼SE¼NW¼ - Irrig./Shallow

Sec. 29	Twp. 22 S. CARD I	Rge 27 E.
C-62	SW¼	
C-172	NW¼NE¼SE¼	160 ac.
C-173	SE¼SE¼SE¼	160 ac.
C-174	SW¼NW¼SE¼	160 ac.
C-175	SW¼NW¼SE¼	160 ac.
C-328	SE¼	Dom cancelled
C-597	NW¼NE¼SW¼	Dom
C-175-S	NW¼NW¼SE¼	Irr.
C-559	SW¼SE¼SE¼	Dom
C-745	S½	Expl.
C-1246-X	SW¼NW¼NW¼	Irr.
C-1246-X-2	SW¼SW¼NW¼	Irr.
C-1246-X-3	SW¼SE¼NW¼	Irr.

(OVER)

Sec. 30	Twp. 22 S.	Rge 27 E.
C-451	SE¼NE¼	Irr.
C-31-C & C-228-S-Comb.	NW¼SE¼SE¼	Irr.
C-183	SW¼NW¼SE¼SE¼	Stock
C-31-C	NW¼SE¼SE¼	Irr.
C-1086	W½NW¼	Dom.
XXXXXX	XXXXXXXXXXXXXX	XXXX
C-1184	E½SE¼SE¼SE¼	Dom.
C-1356	SE¼NE¼SE¼	Dom.
C-1526	NW¼NW¼NW¼	com.

C-1691 SW¼NW¼NW¼ Dom. & Com.
C-1789 SE NE SE DOM.

Sec. 31	Twp. 22	Rge. 27
C-32--C-32-S	SE¼	(DENIED)
C-217	SE¼	
C-217-S	SE¼	
C-228	NE¼	
C-244	NE¼	Dom.
C-288-S	SW¼NE¼NE¼	113.8 ac.
C-249	NE¼NE¼NE¼	Dom. (CANCELLED)
C-1037	NE¼NE¼NE¼	DOM.
C-228 into C-228-A	NW¼NW¼SW¼	irr.

Sec. 32	Twp. 22 S.	Rge 27 E
C-31		
C-62	NW¼	
C-270	SW¼.	Dom CANCELLED
C-343	NE¼	75 ac.
C-430	NW¼NW¼NE¼	
C-619	SW¼SW¼NE¼	Expl.
C-625	SW¼SW¼NE¼	IRR.
C-625 & C-430-Comb.	SW¼SW¼NE¼	Irr.
C-625 & C-430-Comb.-S	NW¼NW¼NE¼	61 ac.
C-31-D & C-563 Comb.	SW¼NW¼SW¼	Pt. 30 ac

Card II

Sec. 32	Twp. 22 S.	Rge 27 E.
C-193 & C-193 Enlg. & C-343 Comb.-S	E 3/4 SW¼NE¼	Irr.
C-204	SW¼SW¼NE¼	shallow
C-343-A		dom.

C-1749 S½SW¼ 32-22S-27E. Domestic

C-1833 SW¼ Domestic & Stock

Sec 1	Twp 23	Rge 26
C-355	SE¼ Oil Test O-2-E-30	
C-1647	SE¼SW¼SW¼	Domestic
C-1665	SE¼SE¼SW¼	Domestic
C-1754	NW¼SW¼SW¼	Domestic & Stock
C-1960	SW¼SW¼SW¼	Domestic & Stock
C-1985	SE¼SW¼	Domestic & Stock

Sec. 2	Twp. 23	Rge. 26
C-418	SE¼NE¼	CNACELLED

Section 3	Township 22 S.	Range 26 E.
C-1183	E½NW¼NW¼	Dom.

Section 11 Township 23 South Range 26 East

C-1310	$NW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom.
C-1324	$NW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom.
C-1548	Pt.$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic
C-1635	$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & Stock
C-1708	$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & Stock
C-1810	*$NE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$*	*Stock & Domestic*
C-1843	$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & stock
C-1866	$W\frac{1}{2}NE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$	Domestic

Sec. 12 Twp. 23-S Rge. 26-E.

C-934	$NW\frac{1}{4}NW\frac{1}{4}SW\frac{1}{4}$	Dommercial
C-1674	$SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-1678	$SW\frac{1}{4}SW\frac{1}{4}$~~SE~~$NE\frac{1}{4}$	Domestic - DRY HOLE
C-1702	$NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Domestic & Stock
C-1750	$SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & Stock
C-1806	*$N\frac{1}{2}SE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$*	*Domestic & Stock*
C-1812	*$SE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$*	*Domestic & Stock*
C-1903	$E\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$	Stock/Domestic
C-1904	$SW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$	Stock
C-1919	$N\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}SW\frac{1}{4}$	Domestic

C-1920 - $SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$, Domestic & Stock

(Over)

C-1922	$NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-2000	$SW\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-2041	$E\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$	Dom/Stk

Sec. 5	Twp 23 S		Rge 27
C-25	NW¼NW¼SW¼		Irr
C-176	NW¼NW¼SE¼		Irr
C-296	NW¼SE¼		Dom
C-323	SE¼SE¼		Dom
C-1670	SE¼SE¼NE¼	Domestic	
C-1671	SW¼SW¼NE¼	Domestic & Stock	
C-1976	SW¼NW¼NE¼	Domestic	

Sec 6	Twp 23		Rge 27
C-28	N½SW¼NW¼		Irr
C-28-S	S½NW¼NW¼		
C-29			
C-624	NE¼	Cancelled	Expl
C-1757	N½SE¼SW¼	Domestic & livestock	
C-1900	NE¼SW¼	Domestic & Stock	

Section 7 Township 23 South Range 27 East

C-1618	SE¼SE¼SE¼	7-23S-27 E.	Commercial
C-1632	W½SE¼	7-23-27	Commercial
C-1847	NW¼SW¼	7-23S-27E	Dom. & Stk.

Sec 8	Twp 23 S.	Rge 27 E
C-50	NW¼NW¼NW¼	Irr
C-711	W½NW¼NW¼	Dom
C-1071	NW¼	Dom

3/12/86: Wayne Price, Unocal called (393-7751) to say:

(1) they plan to submit a Part 5 DP for Trucker's #1 by September 3 at the latest; and

(2) they will have the materials required on the Carlsbad station in to us by March 18th or at least postmarked March 18.

Note: wait for Cafer Part 5 submittals on Trucker's #1 before publishing public notice.

Patty Morgan

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

February 5, 1986

Dick Pettigrew
1110 North Grimes Street
Hobbs, NM 88240

Re: Unichem Carlsbad Brine Station - contamination investigation.

Dear Mr. Pettigrew:

As you requested during our phone conversation of February 3rd, I am sending you a copy of Wayne Price's January 28th letter to me, plus some earlier letters on the same subject to catch you up on how we got to this point. My responses to the numbered paragraphs in Mr. Price's 1/28/86 letter are as follows:

I: map generally adequate.

II: location for background soil sample acceptable. Two samples for background would be preferable.

III: The point of the diagonal drilling is to sample as much of the soil beneath the tank as possible to determine whether any brine leakage has occurred from the tank bottom. For this reason, I believe the diagonal drilling would be most effective if directed in from the middle of the east and west sides of the tank, rather than at the points #2 and #4 indicated in Mr. Price's map. It is not necessary to drill to any great depth: the depth of drilling should be determined by what angle is convenient for drilling to beneath the middle of the tank. However, if the deepest soil sampled shows chloride contamina-

Soil samples should be collected at about every foot of depth in each hole drilled, rather than composited.

IV: As I recall from my November 1985 visit to the station, the area immediately west of the tank showed substantial salt accumulation. A sample should be collected there as well as at point #3 on Mr. Price's map. Five feet appears to be an adequate depth for these samples - again, if excessive chloride is encountered at five feet, it will be necessary to go deeper to ascertain the depth of contamination. Note that the background samples should be collected to the maximum depth to which any other sample is

V-VIII: Fine.

Please let me know if you have any further questions. I can be reached by phone at 827-2901.

Sincerely,

Paige Grant Morgan
Water Resource Specialist
Ground Water Section

PGM:pgm

cc: EID District IV Engineer, Bill Weber
Wayne Price, Unichem International

1/28/86

ENVIRONMENTAL IMPROVEMENT DIV.
STATE of NEW MEXICO
P.O. BOX 968
SANTA Fe NEW MEXICO 87504-0968
505-827-0020

Att: PAIGE GRANT MORGAN
WATER RESOURCE SPECIALIST
GROUND WATER SECTION
Ref: UNICHEM CARLSBAD BRINE ST.
DEAR PAIGE,

PLEASE FIND ATTACHED A SCALED PLOT PLAN PER YOUR REQUEST LETTER DATED 1/23/86. LISTED BELOW ARE THE ITEMS of CONCERN:

I. SCALED MAP of UNICHEM CARLSBAD ST - SEE ATTACHED MAP

II. "BACKGROUND" SOIL SAMPLE LOCATED MARKED AS # 1 ON MAP DEPTH 5 FEET.

III. SOIL SAMPLE LOCATIONS MARKED 2 + 4 ON MAP FOR DIAGONAL REQUIREMENTS- PROCEDURE WILL BE ~~TO USE HEAVY EQUIPMENT AND REMOVE~~ DIRT MOUND UP TO BRINE TANK WALLS AND DIG 5 FEET DOWN AND TAKE A COMPOSITE SAMPLE.

IV. SOIL SAMPLE LOCATION MARKED # 3 5 FEET DEEP.

1/28/86

V SOIL SAMPLES WILL BE COLLECTED WITH A SHELBY TUBE, SPLIT SPOON OR ANY DEVICE THAT IS EQUAL.

VI. SAMPLE STORAGE AND PRESERVATION: SAMPLE WILL BE STORED IN NEW CLEAN MASON JARS WITH AN ALUMINUM FOIL LINER / LID.

VII DEPTH of SOIL SAMPLE DETERMINATION of 5 FEET WILL BE CONSIDERED A STARTING POINT FOR EVALUATION of CONTAIMINATION.

VIII. CHEMICAL PARAMETERS FOR ANALYZATION WILL BE CHLORIDES given IN PPM FROM A SOIL-WATER EXTRACTION METHOD USED BY THE U.S.D.A. AG HANDBOOK 60 METHOD 3A (SOIL WATER EXTRACTION FOR CHLORIDES)

THE ABOVE RESULTS WILL PROBABLY BE RATED "AS NaCL"

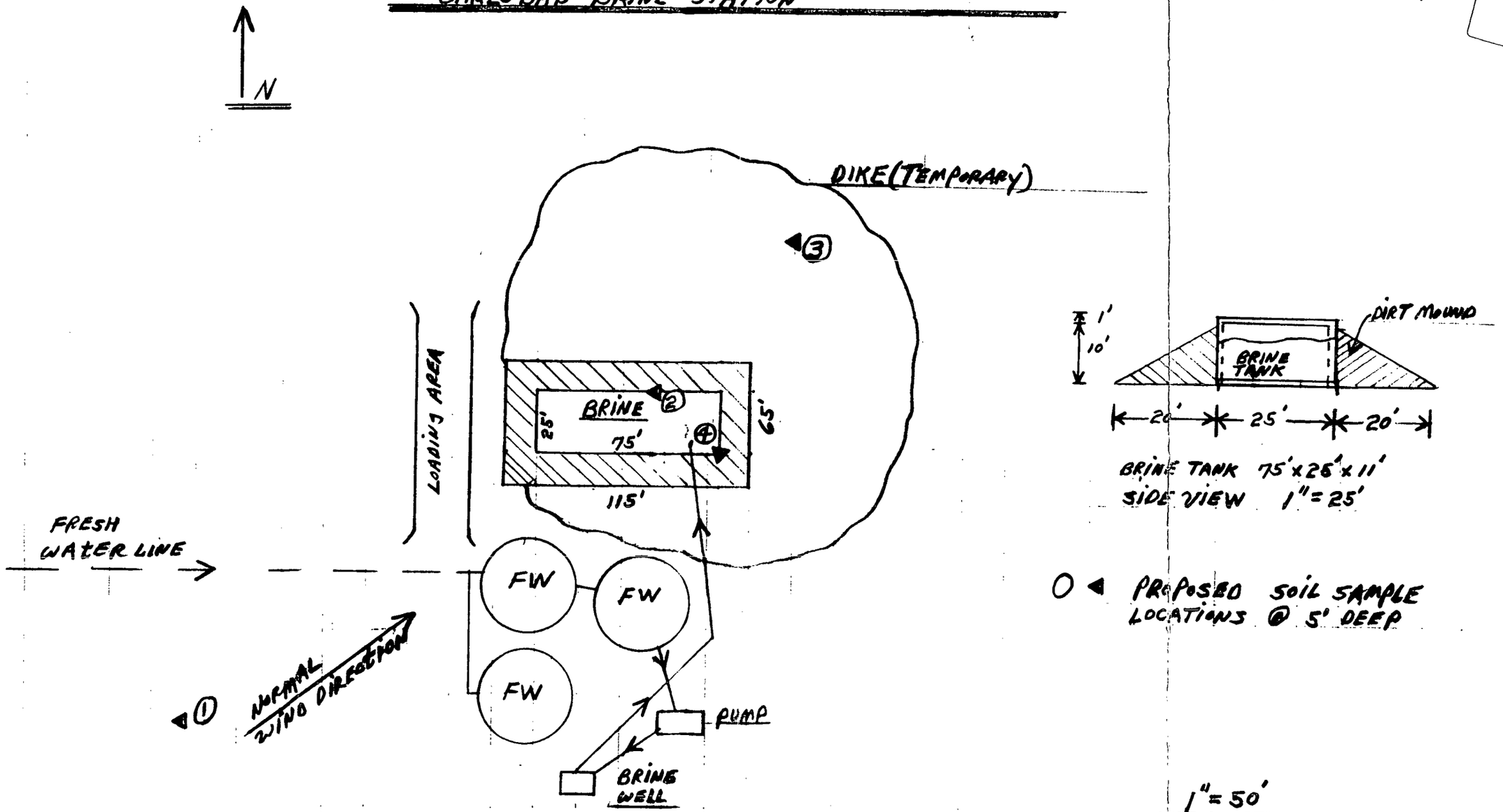
PLEASE NOTE WE WILL STAY IN CONSTANT CONTACT UNTIL YOUR REQUIREMENTS ARE FULFILLED

SINCERELY,

WAYNE PRICE
STAFF ENGR.

DATE 1/28/86
DRAWN LWP

CARLSBAD BRINE STATION



BRINE TANK 75'x25'x11'
SIDE VIEW 1"=25'

○ ◀ PROPOSED SOIL SAMPLE LOCATIONS @ 5' DEEP

1"=50'

STATE OF NEW MEXICO
HEALTH ENVIRONMENT department

MEMORANDUM

DATE: *January 30, 1986*

TO: *Jim Smith*
Carlsbad Field Office

FROM: *Paige Morgan*
Ground Water Section

SUBJECT: *Background on Unichem Carlsbad cleanup requirements.*

I'm sorry you haven't been fully informed on the above topic - I tend to send just one copy of my correspondence to the District Office and hope they'll distribute it to the appropriate people from there, because I have a horror of paper wastage! However, if you're not being kept current on things going on in your beat, I'll reform and send relevant stuff directly to the Field Office.

Let me know if I can clarify anything in the attached materials.

cc: Garrison McCaslin, EID District IV Acting Manager.

1/30/86 : Jim Smith called from E&D Carlsbad - he had some Rowland Trucking people in his office with questions about what we wanted them to do with the Carlsbad brine station, and he hadn't heard a thing about it. I filled him in on my correspondence w/ Inchem on the Carlsbad station and promised to send him copies. I then spoke with a Mr. McKinney of Rowland Trucking. McKinney said Drake had told them to remove the berm around the "emergency pit" right away and scrape up the brine crust. McKinney had "bladed up" a certain amount of brine spillage around facility but doubted the wisdom of removing any emergency catchment. I said she was right, an emergency catchment was needed, and before they took any action they should send us a proposal of what they plan to do first, so we can eliminate any misunderstanding. I said I had been in touch with Wayne Price of Inchem and Mr. Price was planning on sending in the plans I was requesting, and nothing should be

done until I received the plans. I said I thought Mr. Price and I understood each other about what was being required, and that if Mr Brakey had any questions he should call me. McKinney said he would tell him so and in the meantime would make no more than six inches of topsoil. I said that sounded okay although I didn't think anything needed to be done until after the plans were approved

Patsy Morgan.

1/27/86: Wayne Price called from Utah; said that the company president and he were very worried about the letters I had sent on the Carlsbad and Trucker's #1 facilities and wanted to do everything necessary to straighten things out.

On <u>Carlsbad</u>: Wayne wanted to know what more was expected. I pointed out that I had listed some specific elements of the investigation that would be required: locations and depths of soil cores, what would be analyzed for, etc. We discussed further: he agreed to send me from Utah a sketch map of the facility, as accurate as he could make it, indicating locations of three soil cores around the tank and two for background.* Soil samples to be analyzed for chloride, by A&L Soillabs, a Texas firm. Initial depth of cores to be deeper than any evident brine contamination; if the bottom of any core still showed elevated chloride, cores would be taken to greater depth. Wayne will

* and two from horizontal cores beneath the tank.

have the soil lab send me a description of the technique used to collect the sample and to analyze it. He will submit all this within two weeks.
He indicated that the problems at the Carlsbad facility are only six months old - not long-standing -

Trucker's No 1: Wayne said he had simply let it slide to get a DP amendment in on this facility in time. He asked to be reminded whether it was requiring a full Part 5 amendment or just an amendment of the surface facilities - I said the latter. He said he would definitely get that in before the Feb. 17 deadline.

Larry Morgan

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

January 23, 1986

Wayne Price, Staff Engineer
Unichem International
PO Box 1499
Hobbs, NM 88240

Re: Unichem Carlsbad Brine Station

Dear Mr. Price:

You should be aware by now, after the process of preparing a discharge plan amendment and renewal for the Unichem Eunice brine facility, that this office will require considerably more detail in a plan for investigation of contamination at the above-referenced brine station, than what you have provided in your letter to me of January 16, 1986. You indicate that testing procedures (and results) will be forwarded to me "as soon as they are available". Those procedures should have been made available to me by January 18th, according to my letter to you of December 11, 1985. In that letter, I indicated that you should "submit plans for an investigation of the extent of soil and ground water contamination at the site by January 18, 1986", as an intermediate step toward preparing a discharge plan modification. Without providing me with specifics on testing procedures, including depths and locations at which soil cores will be taken and methods for sample preservation and analysis, I consider that you have not fulfilled the terms under which I recommended that the deadline for submittal of a discharge plan modification for the Unichem Carlsbad brine facility be delayed.

Please respond to this letter immediately with a scaled map of the Unichem Carlsbad brine facility showing locations where soil cores will be made, including samples for "background" values and diagonal cores to be drilled beneath the brine storage reservoir. Indicate the depth to which soil samples will be taken, and how that depth is determined. Discuss sample storage and preservation techniques and the chemical parameters that will be analyzed for these soil samples.

This request constitutes a further attempt by the EID to obtain Unichem's voluntary cooperation with the New Mexico Water Quality Control Commission regulations.

Sincerely,

Paige Grant Morgan
Water Resource Specialist
Ground Water Section

PGM:pgm

cc: EID Legal Bureau
Garrison McCaslin, Acting Manager, EID District IV
R.J. Brakey, Unichem Int'l Vice-President

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

VIA CERTIFIED MAIL

January 16, 1986

Ms. Paige Grant Morgan
Water Resource Specialist
State of New Mexico
Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87504-0968

RE: Carlsbad Brine Station
Your Letter Dated December 11, 1985

Dear Paige:

Per your request, I am submitting a plan for investigation of the extent of soil and ground water contamination at our Carlsbad brine station.

This plan has already been put into action. I look forward to hearing from you as soon as possible as to whether or not the plan is acceptable.

Sincerely,

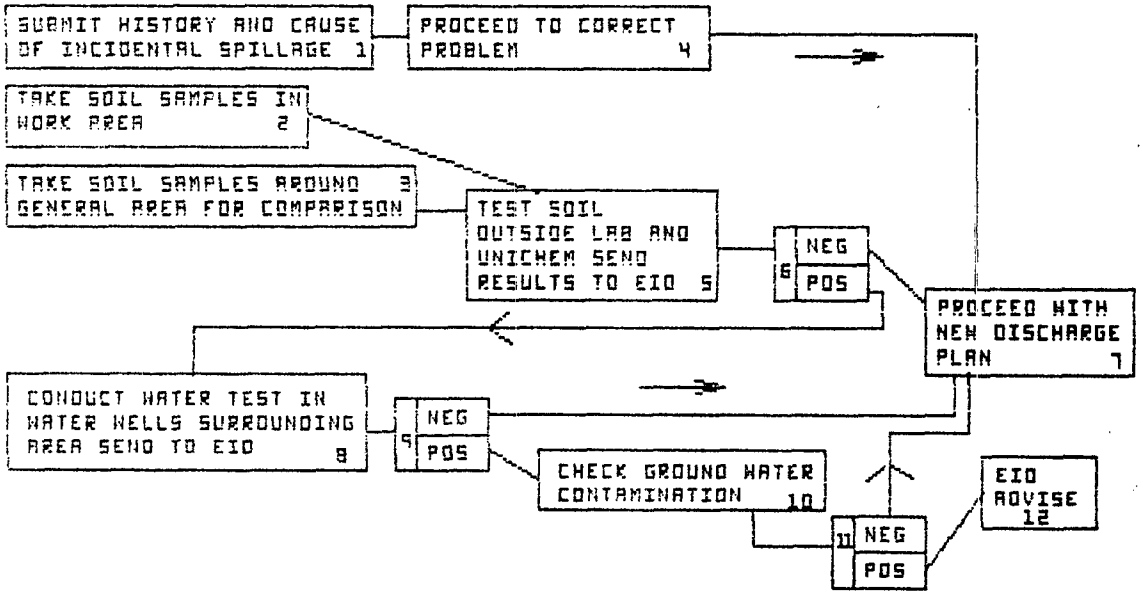
UNICHEM INTERNATIONAL INC.

Wayne Price

Wayne Price
Staff Engineer

WP/sar
Enclosure

cc: Jim Britton
Richard Brakey



NOTES:

Items 1 and 4 presently being corrected. Will submit by March 18, 1986.

Items 2 and 3 - Soil samples will be taken as soon as you have approved the plan.

Items 5 through 12 - Remain.

Please note all test results will be forwarded to you as soon as they are available. This will include testing procedures.

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

Wayne Price, Staff Engineer
Unichem International
PO Box 1499
Hobbs, NM 88240

December 11, 1985

Dear Mr. Price:

With reference to your letters of December 2nd:

Your response to my August 9th comments on the discharge plan amendment for Unichem's Eunice brine facility, is generally adequate. I called Richard Ward of B.F. Goodrich (614-373-6611) to ask about the applicability of the Flexseal liner to your purpose. He said that the liner is well suited to storage of brine but that floating hydrocarbons (which are often spilled along with brine when a truck is overloaded) will cause the liner to soften and become susceptible to mechanical damage when, for instance, you drop a hose in the pond to pump out the fluids it contains. Thus Unichem is required to inspect the pond daily and remove any petroleum that may be present. If petroleum or petroleum products are visible in the pond during two EID inspections, Unichem may be subject to fines for violating one of the terms of its discharge plan.

I am prepared to recommend approval of the Unichem Eunice discharge plan amendment as soon as I receive documentation that the pond liner was properly installed.

With regard to your request for an extension of the deadline by which you are required to submit a discharge plan amendment for Unichem's Carlsbad facility: I have recommended that your request be honored if you will submit plans for an investigation of the extent of soil and ground water contamination at the site by January 18, 1986, 60 days from the date of my first letter requiring a modification. The balance of the discharge plan must be submitted by March 18, 1986, 120 days from the date of that first letter. Any delay past that date will be cause to seek penalties against Unichem for violation of the Water Quality Act.

Sincerely,

Paige Morgan

Paige Grant Morgan
Water Resource Specialist
Ground Water Section

PGM:pgm

cc: John Guinn, EID District IV Manager

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

VIA CERTIFIED MAIL

December 2, 1985

Paige Grant Morgan
Water Resource Specialist
State of New Mexico
Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87504-0968

RE: Unichem (Rowland) Carlsbad Brine Station

Dear Paige:

In reference to your letter of November 18, 1985 concerning your inspection of November 11, we would like to take the option of preparing an amended discharge plan, pursuant to Parts 3 and 5 of the WQCC regulations. We understand that we have 60 days in which to submit this amended plan. We respectfully request an extension to this 60-day period. I feel sure we can have the engineering design overview ready within 60 days. However, the full modification discharge plan for 1987 will require much more time. Please let me know your thoughts on this.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

WP/sar

cc: Jim Britton
Richard Brakey
Charlie Root

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 18, 1985

Richard Brakey, Vice-President
Unichem International
PO Box 1499
Hobbs, New Mexico 88240

Dear Mr. Brakey:

On November 11, 1985, EID staff members Paige Morgan and Steven Sares inspected Unichem's Carlsbad Brine Station and found the following conditions which indicate that the New Mexico Water Quality Control Commission regulations are being or may be violated:

1) The converted ammunitions storage shed which serves as a brine storage reservoir leaks near its top so regularly that channels have been eroded in the berm surrounding the structure. There is a salt crust several inches thick in places in the bermed area at the foot of the reservoir which is apparently intended as an emergency catchment. This crust obscures any leakage that may exist near the base of the reservoir.

2) There appears to be no leak detection system beneath the reservoir.

3) The "emergency catchment" is unlined and there are no arrangements by which to minimize potential ground water quality impacts from leaks or spills at the loading bays.

Ground water in the area would probably be encountered at a depth of approximately 100 feet. There are numerous domestic wells within a mile of the facility, indicating that ground water in this zone contains much less than 10,000 mg/l of total dissolved solids, and is thus protected from contamination under the WQCC regulations.

Therefore, pursuant to Section 3-109.E of the WQCC regulations, you are required to modify your discharge plan for this facility in such a way as to address the above-listed problems. In particular, you are required to investigate the zone beneath the brine reservoir to assess whether there has been sufficient leakage to contaminate ground water. If the vadose zone is found to be saturated with brine, a hydrologic study must be conducted to determine whether ground water has been contaminated and, if contaminated, to propose a program to restore its quality.

You are also required to describe how you will construct your surface facilities so as to remove the threat of ground water contamination. Additional information may be required following your submittal of the above materials, to ensure that all aspects of Part 3 of the regulations are addressed.

This discharge plan modification must be submitted within 60 days of receipt of this letter.

Be advised that you may choose at this time to prepare an amended discharge plan pursuant to Part 5 of the WQCC regulations, instead of Part 3 alone. This would be required in any case when you apply for a renewed permit to operate in 1987, when your present discharge plan expires.

Whether you choose to submit an amendment covering only those violations noted above, or choose to prepare a complete Part 5 discharge plan amendment/renewal at this time, if we do not receive an adequate response to this letter within 60 days, the director of EID may terminate the discharge plan approval under which you are operating (see Section 3-109.E.2). You are reminded that, pursuant to Section 5-101.B.3, it is unlawful to operate an injection well in the state of New Mexico without an approved discharge plan.

Please contact Paige Grant Morgan at 827-2901 or at the address given in the letterhead, if you have any questions on the contents of this letter.

Sincerely,

Richard Perkins
Acting Bureau Chief
Ground Water/Hazardous Waste Bureau

RP:PGM:pgm

cc: John Guinn, EID District IV Manager

P 612 426 609

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Unichem International

Sent to Richard Brakey	
Street and No. P.O. Box 1499	
P.O., State and ZIP Code Hobbs, N.M. 88240	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

PS Form 3800, Feb. 1982

☆ U.S.G.P.O. 1983-403-517

EID BUCKSLIP

CHECK ONE:

[X] LETTER TO Thiessen
for Perkins signature

[ ] MEMO TO _____

[ ] PRESS RELEASE

[ ] OTHER

SUBJECT: DP amendment required

DRAFTED BY: Patsy Morgan 11/15/85 (Date)

CONCURRENCES:

NAME:		INITIAL	DATE REC'D	DATE APPROVED
R. Conrad	Sect. Mgr.	RC	11/15/85	11/15/85
_____	Bur. Chief	[illegible]	_____	11/15/85
Richard Holland	Dep. Dir.	_____	_____	_____
Denise Fort	Director	_____	_____	_____

FINAL DECISION NEEDED BY 11/18/85 (date) BECAUSE so as not to
jeopardize letter & so as to get things rolling in
a cleanup.

COMMENTS BY DRAFTER OR REVIEWER(S):

It may seem excessive to require an amend-
ment & threaten to revoke their DP approval,
but these guys should know better: they've been
in the process of amending a DP for another
of their facilities which was a real mess, and
DP was much gentler on that one.

No. of Samples	Ion
	Na
	K
	Ca
	Mg
	Cl
	HCO3
	CO3
	SO4
	TDS
////////	////////
	NO3+ NO2
	NH3
	kjeld N
////////	////////
	As
	Ba
	Cd
	CN
	Cr
	F
	Pb
	Hg
	Se
	Ag
	U
	V
	Ra 226
	Ra 228
////////	////////
	Cu
	Fe
	Mn
	Phenols
	Zn
////////	////////
	Al
	B
	Co
	Mo
	Ni
////////	////////
	pH
	Conduct.

FIELD TRIP REPORT
GROUND WATER SECTION

SLD USER CODES

County *Eddy*

Ground Water: 59300
NO_3, HC, & Toxics: 59600
UIC: 59500

FACILITY VISITED

Name of Facility: *Unichem (Rowland Trucking) City of CarlsbadBrine Sation*
Location: *south of Carlbad across from airport; facility set back from Hwy approx. 1/4 mile.*
Discharge Plan Number: DP- *372*
Type of Operation: *brine extraction welland brine sales*

ENVIRONMENTAL IMPROVEMENT DIVISION FIELD VISIT

EID Inspector(s): *Morgan, Sares*
Date of Inspection or Visit: *11/12/85*
Discharger's Representative Present During EID Visit: *None. Spoke to*
Name: *woman at adjacent trailer who said she was just there to count how*
Title or Position: *many trucks used the facility.*
Purpose of Visit:
a. Evaluation of Proposed Discharge Plan _____
b. Compliance Inspection of Discharge with Approved Plan X
c. Other (specify) _____
Inspection Activities During Field Visit:
a. Inspection of Facilities or Construction (specify)

General housekeeping inspection. Looked at adjacent ammunition storage structure to get an idea of the materials used in the ammo shed converted to Unichem's brine storage facility.

b. Sampling of Effluents (give sampling locations)

c. Sampling of Ground Water (give names or locations of wells)

d. Evaluation of geology, soils, water levels or other physical characteristics of the location (specify)

e. Other (specify)

Observations and Information Obtained during the Visit:

Berm around storage pond eroded by constant leakage or overtopping, considerable salt crust around foot of berm. Spillage during truck loading is diverted by an unlined channel into an area surrounded by a low berm (six inches), also unlined. Judging by adjacent ammo shed structure, storage pond is constructed of concrete block covered by roofing paper. DP reports it is lined with "gunnite".

ACTION REQUIRED

Require DP modification to check for contamination of ground water, redesign surface facilities.

DISTRIBUTION		
FILE		
U.S.G.S.		
LAND OFFICE		
TRANSPORTER OIL		
TRANSPORTER GAS		
OPERATOR		
PRORATION OFFICE		

REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Supersedes Old C-104 and C-110
Effective 1-1-65

RECEIVED
OCT 27 1981
O. C. D.
ARTESIA, OFFICE

RECEIVED
SEP 21 1983
OIL CONSERVATION DIVISION
SANTA FE

Operator
Unichem International, Inc.

Address
P. O. Box 1196, Eunice, New Mexico 88231

Reason(s) for filing (Check proper box)

New Well	☐	Change in Transporter of:			
Recompletion	☐	Oil	☐	Dry Gas	☐
Change in Ownership	☒	Casinghead Gas	☐	Condensate	☐

Other (Please explain)

If change of ownership give name and address of previous owner Truckers Water Company, P. O. Box 1196, Eunice, New Mexico 88231

DESCRIPTION OF WELL AND LEASE

Lease Name	Well No.	Pool Name, Including Formation	Kind of Lease (State, Federal or Fee)	Lease No.
City of Carlsbad	1	Wildcat	Salt mining	M19264

Location

Unit Letter H : 2420 Feet From The North Line and 330 Feet From The East

Line of Section 36 Township 22S Range 26E , NMPM, Eddy County

DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil ☐ or Condensate ☐	Address (Give address to which approved copy of this form is to be sent)
Name of Authorized Transporter of Casinghead Gas ☐ or Dry Gas ☐	Address (Give address to which approved copy of this form is to be sent)

If well produces oil or liquids, give location of tanks.	Unit	Sec.	Twp.	Rge.	Is gas actually connected?	When

If this production is commingled with that from any other lease or pool, give commingling order number:

COMPLETION DATA

Designate Type of Completion – (X)	Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'v.	Diff. Res'v.

Date Spudded	Date Compl. Ready to Prod.	Total Depth	P.B.T.D.
Elevations (DF, RKB, RT, GR, etc.)	**Name of Producing Formation**	**Top Oil/Gas Pay**	**Tubing Depth**
Perforations			**Depth Casing Shoe**

TUBING, CASING, AND CEMENTING RECORD

HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT

TEST DATA AND REQUEST FOR ALLOWABLE

(Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)

OIL WELL

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
Length of Test	**Tubing Pressure**	**Casing Pressure**	**Choke Size**
Actual Prod. During Test	**Oil - Bbls.**	**Water - Bbls.**	**Gas - MCF**

Post ID's Chng. Operator 11-6-81

GAS WELL

Actual Prod. Test - MCF/D	Length of Test	Bbls. Condensate/MMCF	Gravity of Condensate
Testing Method (pitot, back pr.)	**Tubing Pressure (Shut-in)**	**Casing Pressure (Shut-in)**	**Choke Size**

CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

(Signature)

Vice-President
(Title)

10-14-81
(Date)

OIL CONSERVATION COMMISSION

APPROVED NOV - 2 1981, 19

BY W. A. Gressett

TITLE SUPERVISOR, DISTRICT II

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.

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ARTESIA, OFFICE

Form C-105
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: Salt Mining #M19264

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [ ] OTHER Brine well

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER

7. Unit Agreement Name:

8. Farm or Lease Name: City of Carlsbad

2. Name of Operator: Truckers Water Company

9. Well No.: 1

3. Address of Operator: P. C. Box 1499, Hobbs, New Mexico 88240

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well: UNIT LETTER H LOCATED 2420 FEET FROM THE North LINE AND 330 FEET FROM THE East LINE OF SEC. 36 TWP. 22S RGE. 26E NMPM

12. County: Eddy

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
7-13-76	8-20-76	8-31-76		

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
930			→		X

24. Producing Interval(s), of this completion — Top, Bottom, Name: Salt - 710' Salt 930'

25. Was Directional Survey Made: No

26. Type Electric and Other Logs Run: None

27. Was Well Cored: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8	32#	350'	13"	225 sx Class C	
5 1/2	14#	710'	7 7/8	150 sx Class C	

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8	926'	No

31. Perforation Record (Interval, size and number): Open hole 710 - 930

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

POSTED - comp
ID-2 - 10-1-76

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)
8-31	Circulating fresh water	Circulating

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Gas—Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Oil Gravity — API (Corr.)

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED [signature] TITLE Vice-President DATE 9-9-76

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico			
T. Anhy 210	T. Canyon			T. Ojo Alamo		T. Penn. "B"	
T. Salt 715	T. Strawn			T. Kirtland-Fruitland		T. Penn. "C"	
B. Salt	T. Atoka			T. Pictured Cliffs		T. Penn. "D"	
T. Yates	T. Miss			T. Cliff House		T. Leadville	
T. 7 Rivers	T. Devonian			T. Menefee		T. Madison	
T. Queen	T. Silurian			T. Point Lookout		T. Elbert	
T. Grayburg	T. Montoya			T. Mancos		T. McCracken	
T. San Andres	T. Simpson			T. Gallup		T. Ignacio Qtzte	
T. Glorieta	T. McKee			Base Greenhorn		T. Granite	
T. Paddock	T. Ellenburger			T. Dakota		T.	
T. Blinebry	T. Gr. Wash			T. Morrison		T.	
T. Tubb	T. Granite			T. Todilto		T.	
T. Drinkard	T. Delaware Sand			T. Entrada		T.	
T. Abo	T. Bone Springs			T. Wingate		T.	
T. Wolfcamp	T.			T. Chinle		T.	
T. Penn.	T.			T. Permian		T.	
T Cisco (Bough C)	T.			T. Penn. "A"		T.	

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	210	210	Red bed and shale				
210	240	30	Anhydrite and shale				
240	715	475	Anhydrite				
715	TD	211	Salt				

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RECEIVED
NEW MEXICO OIL CONSERVATION COMMISSION
SEP 13 1976
O. C. C.
ARTESIA, OFFICE

Form C-103
Supersedes Old C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: Salt Mining #M19264

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL [ ] GAS WELL [ ] OTHER- Brine Well

7. Unit Agreement Name:

2. Name of Operator: Truckers Water Company, Inc.

8. Farm or Lease Name: City of Carlsbad

3. Address of Operator: P. O. Box 1499, Hobbs, New Mexico 88240

9. Well No.: 1

4. Location of Well
UNIT LETTER H, 2420 FEET FROM THE North LINE AND 330 FEET FROM THE East LINE, SECTION 36 TOWNSHIP 22S RANGE 26E NMPM.

10. Field and Pool, or Wildcat: Wildcat

15. Elevation (Show whether DF, RT, GR, etc.)

12. County: Eddy

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	[ ]	PLUG AND ABANDON	[ ]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]			COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]	CHANGE PLANS	[ ]	CASING TEST AND CEMENT JOB	[X]		
OTHER	[ ]			OTHER	[ ]		

17. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103.

Drilled well to 930 feet total depth.
Ran 5 1/2" 14# casing to 710'
Spotted 10# mud in rat-hole from 710' to 930'
cemented casing with 150 sx class "C" cement with 4% Calcium Chloride added
Circulated an extimate of 15 sx.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED _____ TITLE Vice-President DATE 9-9-76

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE SEP 30 1976

CONDITIONS OF APPROVAL, IF ANY:

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LAND OFFICE		
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NEW MEXICO OIL CONSERVATION COMMISSION

RECEIVED

SEP 13 1976

O. C. C.
ARTESIA, OFFICE

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" FOR SUCH PROPOSALS.)

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: Salt Mining #M19264

1. OIL WELL [ ] GAS WELL [ ] OTHER- brine Well

7. Unit Agreement Name

2. Name of Operator: Truckers Water Company, Inc. /

8. Farm or Lease Name: City of Carlsbad

3. Address of Operator: P. O. Box 1499, Hobbs, New Mexico 88240

9. Well No.: 1

4. Location of Well: UNIT LETTER H, 3420 FEET FROM THE North LINE AND 330 FEET FROM THE East LINE, SECTION 36 TOWNSHIP 22S RANGE 26E NMPM.

10. Field and Pool, or Wildcat: Wildcat

15. Elevation (Show whether DF, RT, GR, etc.)

12. County

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTERING CASING [ ]
TEMPORARILY ABANDON [ ]		COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [ ]
PULL OR ALTER CASING [ ]	CHANGE PLANS [ ]	CASING TEST AND CEMENT JOB [X]	
OTHER [ ]		OTHER [ ]	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Ran 350' 8 5/8" 32# casing
Cemented with 225 sx Class "C" plus 2% Calcium Cnloride
Cement circulated
W. O. C. 24 hours and bailed dry
Drilled out cement and bailed dry
Drilled to 930' TD hole remained dry

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED [signature] TITLE Vice-President DATE 9-9-76

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE SEP 30 1976

CONDITIONS OF APPROVAL, IF ANY:

Dowell - 746-4115

NEW MEXICO OIL CONSERVATION COMMISSION
DRAWER DD
ARTESIA, NEW MEXICO

FIELD REPORT FOR CEMENTING OF WELLS

Operator		Lease	Well #
Buckeye Water Co Inc.		City of Carlsbad Supply Caine	1

Location of Well	Unit	Section	Township	Range	County
2242 N 330 E	H	36	22	26	Eddy

Drilling Contractor	Type of Equipment
	Cable tools

APPROVED CASING PROGRAM

Size of Hole	Size of Casing	Weight Per Foot	New or Used	Depth	Sacks Cement
12 1/4"	8 5/8"	24		350	150 Circ.
7 7/8"	5 1/2	15.5		650	200 Circ.

Casing Data:

Surface 13 joints of 8 5/8 inch 32 # Grade J-55

(Approved) ~~(Rejected)~~

Inspected by Nick Tumpkin date

Cementing Program

Size of hole 10" Size of Casing 8 5/8 Sacks cement required 225

Type of Shoe used Float collar used Btm 3 jts welded

TD of hole 350' Set 350' Feet of 8 5/8 Inch 32 # Grade J-55

New-~~Used~~ csg. @ 350 with 225 sacks neat cement around shoe

+ — sax — additives 2% Gel

Plug down @ 1:30 ~~(AM)~~ (PM) Date 7-17-96

Cement circulated Yes No. of Sacks 0

Cemented by Dowell Witnessed by Nick Tumpkin

Temp. Survey ran @ (AM) (PM) Date top cement @

Casing test @ (AM) (PM) Date

Method Used Witnessed by

Checked for shut off @ (AM) (PM) Date

Method used Witnessed by

Remarks: Cement circulated but settled back about 12' so used ready-mix to surface.

THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

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THE CONDITION OF

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30-015-21842

NEW MEXICO OIL CONSERVATION COMMISSION

RECEIVED

MAY 20 1976

O. C. C.
ARTESIA, OFFICE

Form C-101
Revised 1-1-65

5A. Indicate Type of Lease STATE ☐ FEE ☐

5. State Oil & Gas Lease No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

b. Type of Well: DRILL ☐ DEEPEN ☐ PLUG BACK ☐
OIL WELL ☐ GAS WELL ☐ OTHER Brine well SINGLE ZONE ☐ MULTIPLE ZONE ☐

7. Unit Agreement Name

8. Farm or Lease Name

2. Name of Operator Inc,

9. Well No. 1

3. Address of Operator

10. Field and Pool, or Wildcat

4. Location of Well UNIT LETTER H LOCATED ____ FEET FROM THE ____ LINE
AND 330 FEET FROM THE ____ LINE OF SEC. ____ TWP. ____ RGE. ____ NMPM

12. County

19. Proposed Depth	19A. Formation	20. Rotary or C.T.
3300 ft.	Salt	

21. Elevation (Show whether DF, RT, etc.)	21A. Kind & Status Plug. Bond	21B. Drilling Contractor	22. Approx. Date Work will start

23.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12 "	8 5/8	24	350 '	1	
7 7/8 "	5 1/2	15.5	3300 '	300	

APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMMENCED,
EXPIRES 9-14-76

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed H. L. Braley Title Vice President Date 5-20-76

(This space for State Use)

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE JUN 14 1976

CONDITIONS OF APPROVAL, IF ANY:

Cement must be circulated to surface behind 8 5/8" & 5 1/2" casing

Notify N.M.O.C.C. in sufficient time to witness cementing the 8 5/8" & 5 1/2" casing

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section

Truckers Water Company (A Division of United Chemical Corp. of N.M.)		Brine Well		1
H	36	22 South	26 East	Eddy
2420	feet from the North	line and	330 feet from the	East line

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

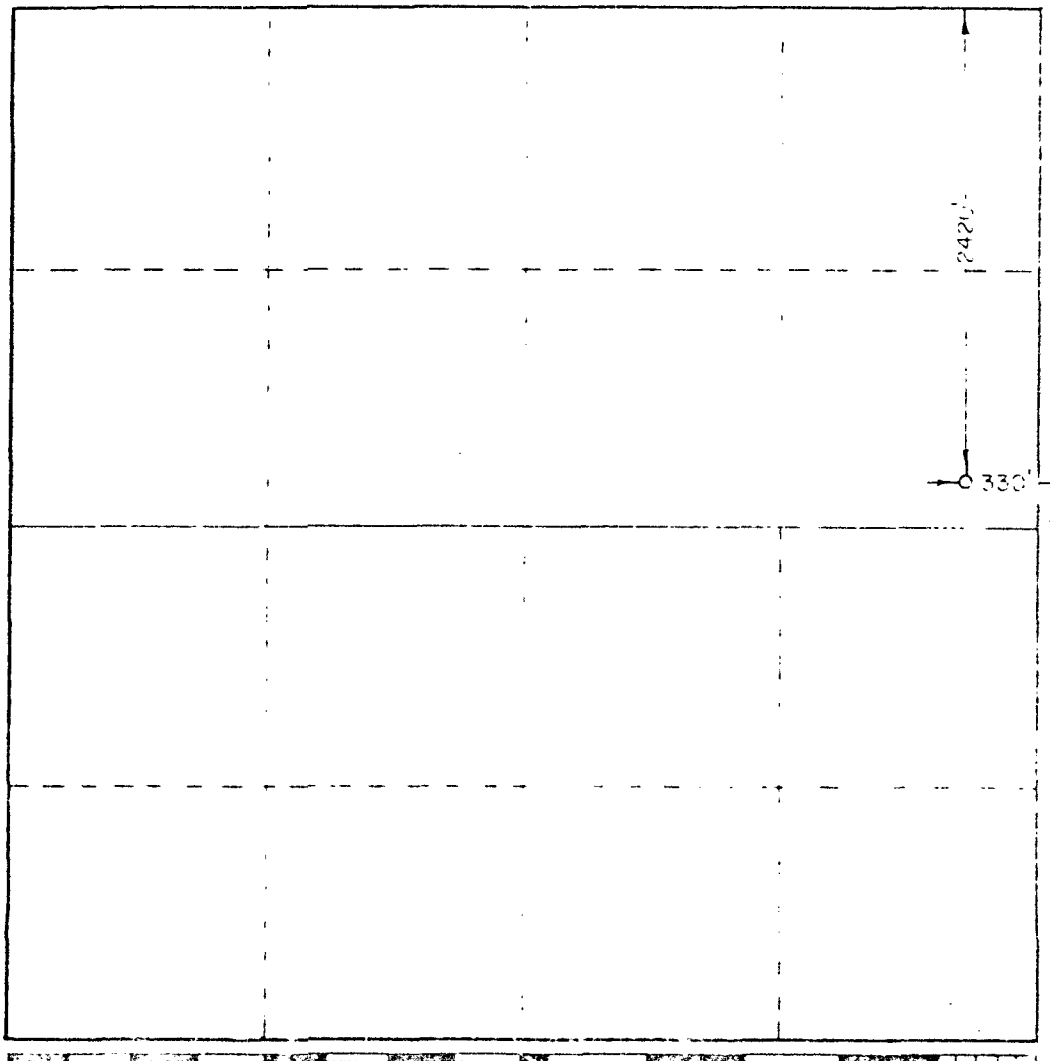
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

R. J. Bailey
Vice Pres.
Truckers Water Co.
5-20-76

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
December 18, 1975

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No. 676

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500

Form Approved, Budget Bureau No. ...

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

1. NATURE OF STRUCTURE *(Complete both A and B below)*

A. *(Check one)*
[X] NEW CONSTRUCTION [ ] ALTERATION

B. *(Check one)*
[ ] PERMANENT [X] TEMPORARY *(State length of time)* 30 days Mos.

2. NAME AND ADDRESS OF INDIVIDUAL, COMPANY, CORPORATION, ETC. PROPOSING THE CONSTRUCTION OR ALTERATION *(Number, Street, City, State and Zip Code)*

TO United Chemical Corporation
dba Truckers Water Company
Box 1499
Hobbs, New Mexico 88240

MAY 26 1976

cc: ASW-900 James W. Parker

3. TYPE AND COMPLETE DESCRIPTION OF STRUCTURE

Cable Tool Drilling Rig

4. LOCATION OF STRUCTURE

A. COORDINATES *(To nearest second)*		B. NEAREST CITY OR TOWN, AND STATE	
LATITUDE	LONGITUDE	Carlsbad, New Mexico 88220	
SEE DIAGRAM ATTACHED		(1) DISTANCE FROM 4B: Approximately 4 MILES	(2) DIRECTION FROM 4B: Southwest

C. NAME OF NEAREST AIRPORT, HELIPORT, OR SEAPLANE BASE	(1) DISTANCE FROM NEAREST POINT OF 4C	(2) DIRECTION FROM AIRPORT
Carlsbad Municipal Airport	Approximately 1 mile	east/northeast

D. *DESCRIPTION OF LOCATION OF SITE WITH RESPECT TO HIGHWAYS, STREETS, AIRPORTS, PROMINENT TERRAIN FEATURES, EXISTING STRUCTURES, ETC. (Attach a highway, street, or any other appropriate map or scaled drawing showing the relationship of construction site to nearest airport(s). If more space is required, continue on a separate sheet of paper and attach to this notice.)*

A 3.00 acre tract of land located in Section 36, Township 22 south, Range 26 east and Section 31, Township 22 south, Range 27 east. NMPM, Eddy County, New Mexico.

SEE ATTACHED SHEET FOR SCALE DRAWING

5. HEIGHT AND ELEVATION *(Complete A, B and C to the nearest foot)*		6. WORK SCHEDULE DATES
A. ELEVATION OF SITE ABOVE MEAN SEA LEVEL	3,284'	A. WILL START: approximately June 1, 1976
B. HEIGHT OF STRUCTURE INCLUDING APPURTENANCES AND LIGHTING (if any) ABOVE GROUND, OR WATER IF SO SITUATED	50'	B. WILL COMPLETE: approximately June , 1976
C. OVERALL HEIGHT ABOVE MEAN SEA LEVEL *(A + B)*	3,334'	

7. OBSTRUCTION MARKINGS – The completed structure will be:	YES	NO
A. MARKED AS SPECIFIED IN THE FAA ADVISORY CIRCULAR 70/7460-1, OBSTRUCTION MARKING AND LIGHTING		X
B. LIGHTED AS SPECIFIED IN THE FAA ADVISORY CIRCULAR 70/7460-1, OBSTRUCTION MARKING AND LIGHTING	X	

I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge.

8. NAME AND TITLE OF PERSON FILING THIS NOTICE *(Type or Print)*	9. SIGNATURE *(In ink)*	
[illegible] Carlsbad, New Mexico	[signature]	
	10. DATE OF SIGNATURE: 5-24-76	11. TELEPHONE NO. *(Precede with area code)*: 505-885-2053

Persons who knowingly and willfully fail to comply with the provisions of the Federal Aviation Regulations Part 77 are liable to a fine of $500 for the first offense, with increased Penalties thereafter as provided by Section 902(a) of the Federal Aviation Act of 1958 as amended.

FAA Form 7460-1 ... SUPERSEDES ...

THIS DETERMINATION EXPIRES 12/1/77 ... IF CONSTRUCTION HAS NOT BEGUN ON THE PROPOSED STRUCTURE; IN WHICH CASE ANY INTERESTED PERSON, INCLUDING THE FAA, MAY AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE PRESENT EVIDENCE BASED ON NEW FACTS THAT WOULD CHANGE THE BASIS ON WHICH THE DETERMINATION WAS MADE. BASED ON THE NEW FACTS PRESENTED, THE FAA MAY REVISE, EXTEND OR AFFIRM THE DETERMINATION. REQUEST FOR EXTENSION OF THE EFFECTIVE DATE SHOULD BE SUBMITTED BY THE PROPONENT 15 DAYS PRIOR TO EXPIRATION DATE.

RECEIVED
JUN 14 1976
O. C. C.
ARTESIA, OFFICE

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. DRAWER DD - ARTESIA
88210

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

June 8, 1976

Truckers Water Co. Inc.
Box 1499
Hobbs, NM 88240

Re: City of Carlsbad Brinewell
#1-H, 36-22-26
Eddy County, NM

Gentlemen:

Notice of Intention to Drill the subject well was received in this office on May 20, 1976.

However, to date, we have not received a letter from the Carlsbad airport stating that a rig at this location would not interfere with their operations.

Upon receipt of said letter, this application will be processed.

If you have any questions concerning this matter, please feel free to call upon me.

Sincerely yours,

W. A. Gressett

W. A. Gressett
Supervisor-District II

WAG/th

NOTICE OF PUBLICATION

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

SANTA FE, NEW MEXICO

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plan has been submitted for approval to the Director of the Oil Conservation Division, P. O. Box 2088, State Land Office Building, Santa Fe, New Mexico 87501, telephone (505) 827-3260.

UNICHEM INTERNATIONAL, P. O. Box 1499, Hobbs, New Mexico 88240, telephone (505) 393-7751, requests approval of their discharge plan for their four brine in situ extraction wells and facilities located in Section 3, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico; Section 33, Township 18 South, Range 38 East, NMPM, Lea County; Section 3, Township 22 South, Range 37 East, NMPM, Lea County; Section 36, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico. Unichem injects water down each injection well to an underlying salt formation thereby dissolving the salt to form a brine water solution with a total dissolved solids content of approximately 300,000 mg/L. Unichem extracts and sells the brine water solution to various companies for use in oil and gas production.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN Under the Seal of the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 12th day of November, 1982.

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

JOE D. RAMEY

Director

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

December 18, 1982

Unichem International
P.O. Box 1499
Hobbs, New Mexico 88240

RE: GWB-12
Discharge Plan

Gentlemen:

The discharge plan submitted for the brine production facility and in situ extraction well located in Section 36, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico, is hereby approved, provided that a suitable monitoring or leak detection system is installed for the brine-holding tank within 6 months from this date.

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

Yours very truly,

JOE D. RAMEY
Director

JDR/OS/dp

cc: Artesia District Office

DP-

UNICHEM
City of Carlsbad Well
Sec 36 T22S R26E

BSW #9

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

September 20, 1982

OIL CONSERVATION DIVISION
DEC 9 1982
RECEIVED

Mr. Joe Ramey
Energy and Minerals Department
Oil Conservation Division

RE: Brine Well Discharge Plan
City of Carlsbad
S 36-T22S-R26E Unit H
Eddy County, New Mexico

Dear Sir:

Attached herewith are schematic diagrams of the brine wells and surface facility in Carlsbad, New Mexico.

The brine well was drilled specifically by us, for use in producing brine. It was drilled using cable tools to also determine the possibility of a fresh water supply. We did not penetrate any fresh water bearing zones, and had to add water to drill the entire hole.

The surface storage facility is an old World War II ammunition storage building that we reinforced and lined with gunnite. The storage and well are monitored daily by one of our supervisors who lives on location.

During 1980-81, 800,000 barrels of brine was produced at this facility. The quality of the brine is checked frequently in our laboratory in Hobbs.

We trust this meets your requirement for a suitable discharge plan and meets with your approval.

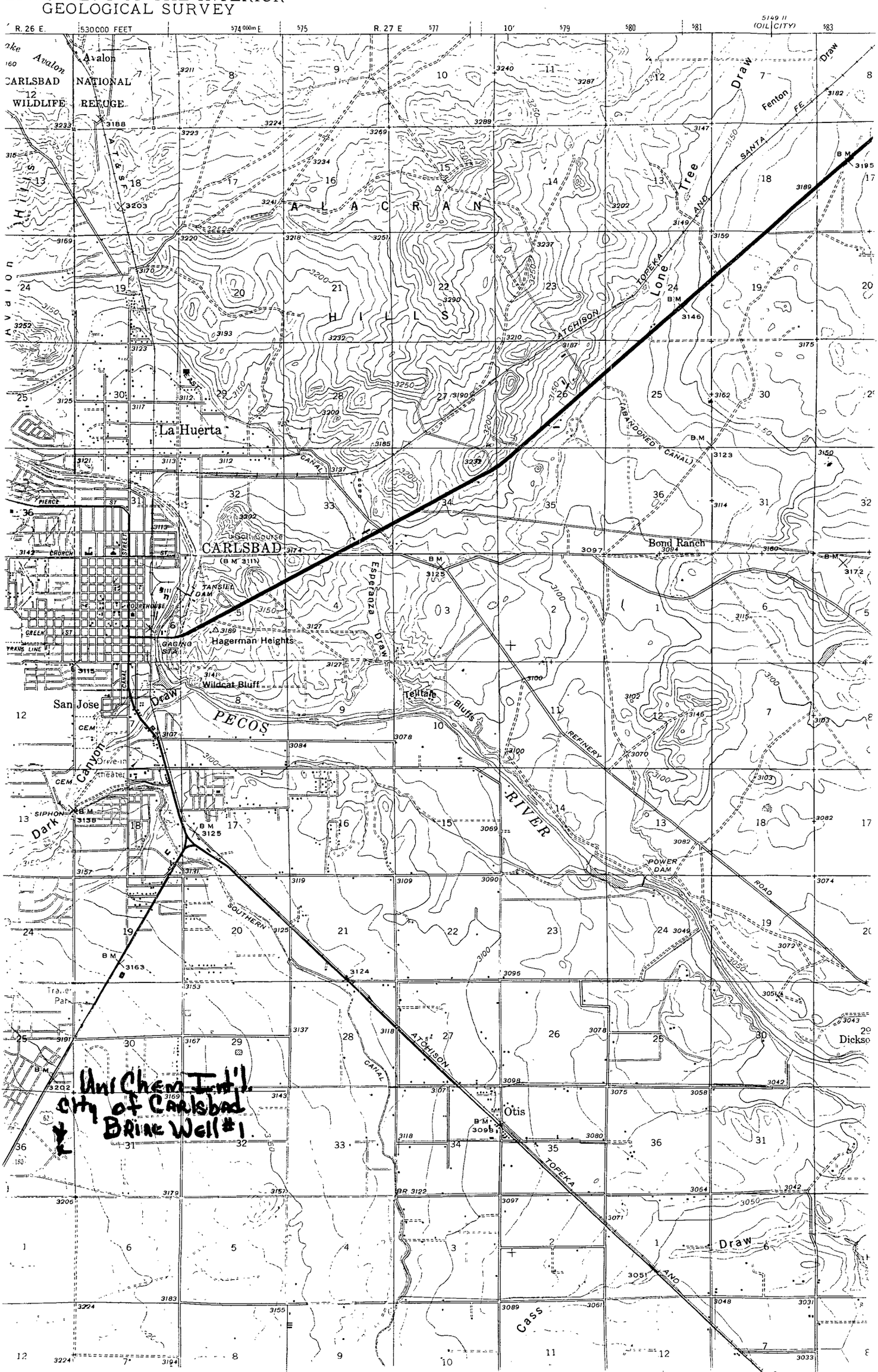
Very truly yours,

UNICHEM INTERNATIONAL INC.

R. J. Brakey
Vice President

RJB/js

UNITED STATES
EPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Brine ~~INJECTION~~ WELL DATA SHEET

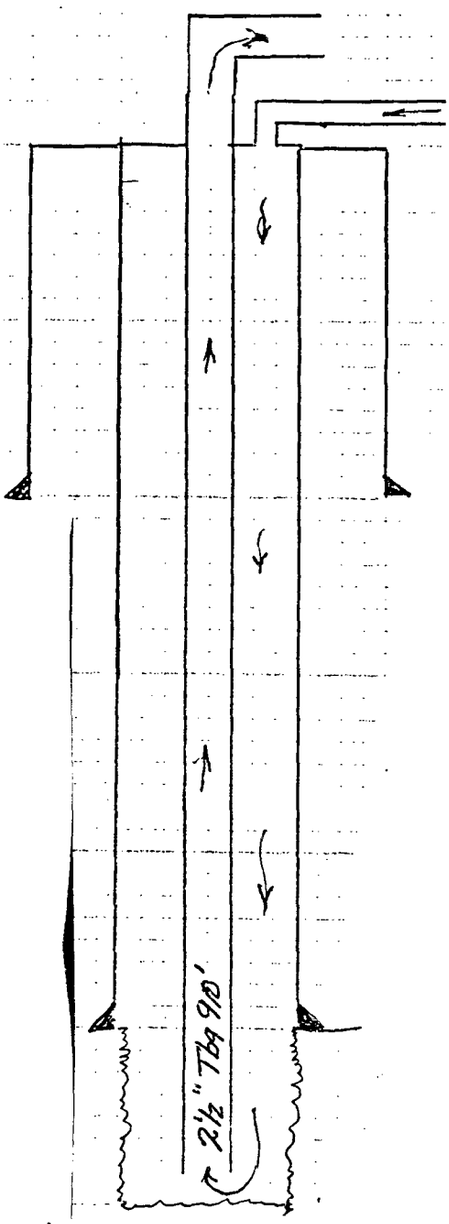
Uni Chem International — City of Carlsbad

OPERATOR — LEASE

#1		36	22S	26E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Eddy Co, N.M.

Schematic



Tabular Data

Surface Casing

Size 8 5/8", 24# Cemented with 225 sx.

TOC Circ feet determined by _____

Hole size 11"

Intermediate Casing

Size None" Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5½" 15.5# Cemented with 150 sx.

TOC circulated feet determined by _____

Hole size 7⅞

Total depth 930

~~Injection~~ interval open Hole

_____ feet to _____ feet
(perforated or open-hole, indicate which)

Drillers Log

0-10' Caliche
10-350' Red Bed + Anyhydrite
350-710 Anyhydite + Sh.
710-930 Salt + Anyhydrite

Tubing size 2½" lined with Unlined (material) set in a

None (brand and model) packer at _____ feet.

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Salt

2. Name of Field or Pool (if applicable) _____

3. Is this a new well drilled for injection? [X] Yes [ ] No

   If no, for what purpose was the well originally drilled? _____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No.

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

   None overlying

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

October 23, 1981

New Mexico Oil Conservation Commission
P. O. Drawer "DD"
Artesia, New Mexico 88210

ATTN: Mr. Larry Brooks

Gentltmen:

In answer to your request, the following is a general production history of our brine well, City of Carlsbad # 1, located in Unit letter H, 2420' from the north line and 330' from the east line of Section 36, Township 22 South, Range 26 East, Eddy County, New Mexico.

Application to drill was filed in May, 1976, drilling completed and the well put into production in August, 1976. Brine water is produced by pumping fresh water from the City of Carlsbad with an auxiliary pump at the rate of 225 psi into the salt section at approximately 742 feet. Brine water can be produced at a rate of 160 barrels per hour. Storage capacity at the well site is 3000 barrels. A brine sales meter was installed in December, 1978, which is used to meter production of brine. Fresh water meters belong to the City of Carlsbad.

The following is a breakdown by month of brine production based on actual sales by the barrel.

8/76	150	5/77	29380	2/78	61340	11/78	17277
9/76	5788	6/77	18680	3/78	62244	12/78	42445
10/76	5180	7/77	31745	4/78	17713	1/79	46220
11/76	14660	8/77	30455	5/78	23565	2/79	26843
12/76	18250	9/77	44920	6/78	34326	3/79	22060
1/77	13272	10/77	16189	7/78	70789	4/79	26140
2/77	21795	11/77	29295	8/78	46808	5/79	14940
3/77	15225	12/77	31608	9/78	49740	6/79	26235
4/77	24265	1/78	57986	10/78	38456	7/79	32180

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

8/79	57339	3/80	20573	10/80	39155	5/81	26795
9/79	25662	4/80	34415	11/80	35865	6/81	33447
10/79	40065	5/80	41195	12/80	51988	7/81	51910
11/79	31274	6/80	25525	1/81	32247	8/81	30195
12/79	21587	7/80	32953	2/81	31955	9/81	39649
1/80	35918	8/80	19440	3/81	34670		
2/80	18435	9/80	21755	4/81	44265		

We are enclosing a copy of the water analysis of the brine water produced from this well.

If there is any additional information you need, please contact us.

Yours truly,

Eunice Rental Tool Co. Division
UNICHEM INTERNATIONAL, INC.

Mary Hughes

Office Manager

MH/s

Encl:

TELEPHONE: HOBBS 393-7751
AREA CODE - 505

KE-TONE®

UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH
P. O. BOX 1499
HOBBS, NEW MEXICO 88240

Company Rowland Trucking

Field

Lease Carlsbad Brine Well

Sampling Date 9-14-77

Type of Sample Trucker's Brine

WATER ANALYSIS

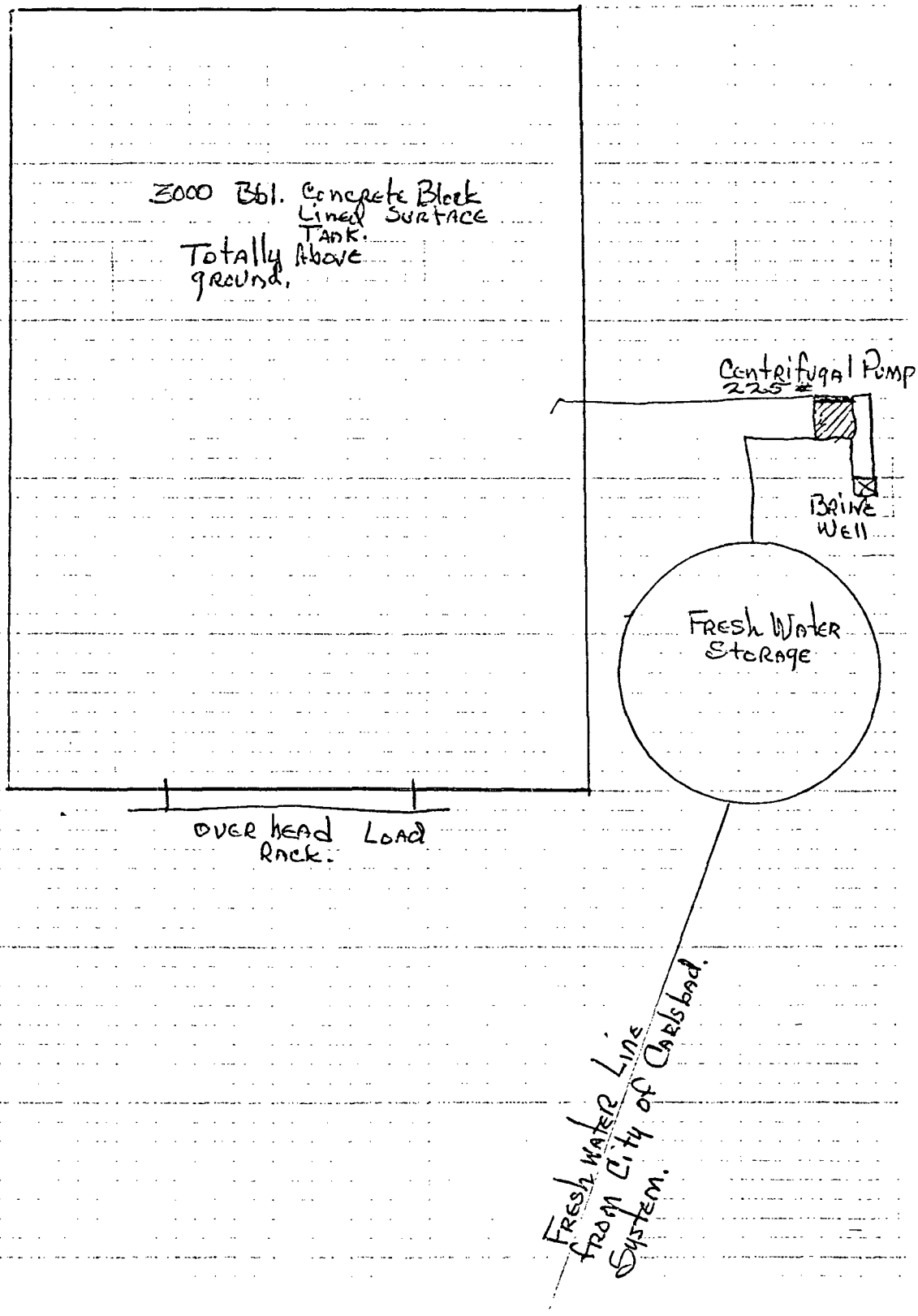
IONIC FORM	(CALCULATED)	me/l *	mg/l *
n (Ca++)		90.00	1,800
sium (Mg++)		42.00	504
ı (Na+)		5,265.89	121,063
otal)			2
nate (HCO_3^-)		2.60	159
ate ($CO_3^=$)		Not	Found
ide (OH^-)		Not	Found
e ($SO_4^=$)		93.69	4,500
e (Cl^-)		5,301.60	188,000
ssolved Solids			316,026
ph c 68 °F			
d Solids on Evap. at 103° - 105° C			
s as $CaCO_3$			
ite Hardness as $CaCO_3$ (temporary)		132.00	6,600
rbonate Hardness as $CaCO_3$ (permanent)		2.60	130
y as $CaCO_3$		129.40	6,470
Gravity c 68° F 1.195		2.60	130

* mg/l = milligrams per Liter

* me/l = milliequivalents per Liter

Makes Water Work

City of Carlsbad
Brine Storage facility



STATE OF NEW MEXICO

Revised 6-17-77

$50,000.00 BLANKET PLUGGING BOND

BOND NO. 4446488
(For Use of Surety Company)

(Note: File with Oil Conservation Commission, P. O. Box 2088, Santa Fe 87501)

KNOW ALL MEN BY THESE PRESENTS:

That Unichem International, Inc., et al. (~~an individual~~) (a partnership) (a corporation organized in the State of New Mexico, with its principal office in the city of Hobbs, State of New Mexico, and authorized to do business in the State of New Mexico), as PRINCIPAL, and HARTFORD ACCIDENT & INDEMNITY, a corporation organized and existing under the laws of the State of Connecticut, and authorized to do business in the State of New Mexico, as SURETY, are held firmly bound unto the State of New Mexico, for the use and benefit of the Oil Conservation Commission of New Mexico pursuant to Section 65-3-11, New Mexico Statutes Annotated, 1953 Compilation, as amended, in the sum of Fifty Thousand Dollars ($50,000.00) lawful money of the United States, for the payment of which, well and truly to be made, said PRINCIPAL and SURETY hereby bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that:

WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide (CO_2) gas leases, or helium gas leases with the State of New Mexico; and

WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide (CO_2) gas leases, or helium gas leases on lands patented by the United States of America to private individuals, and on lands otherwise owned by private individuals; and

WHEREAS, The above principal, individually, or in association with one or more other parties, has commenced or may commence the drilling of wells to prospect for and produce oil or gas, or carbon dioxide (CO_2) gas or helium gas, or does own or may acquire, own or operate such wells, or such wells started by others on land embraced in said State oil and gas leases, or carbon dioxide (CO_2) gas leases, or helium gas leases, and on lands patented by the United States of America to private individuals, and on lands otherwise owned by private individuals, the identification and location of said wells being expressly waived by both principal and surety hereto.

NOW, THEREFORE, If the above bounden principal and surety or either of them or their successors or assigns, or any of them, shall plug all of said wells when dry or when abandoned in accordance with the rules, regulations and orders of the Oil Conservation Commission of New Mexico in such way as to confine the oil, gas, and water in the strata in which they are found, and to prevent them from escaping into other strata;

THEN, THEREFORE, This obligation shall be null and void; otherwise and in default of complete compliance with any and all of said obligations, the same shall remain in full force and effect.

PROVIDED, HOWEVER, That thirty (30) days after receipt by the Oil Conservation Commission of New Mexico of written notice of cancellation from the surety, the obligation of the surety hereunder shall terminate as to property or wells acquired, drilled, or started after said thirty (30) day period but shall continue in effect, notwithstanding said notice, as to property or wells theretofore acquired, drilled, or started.

UNICHEM INTERNATIONAL INC., et al
PRINCIPAL

P.O. Box 1499, Hobbs, N.M. 88240
Address

By William D. Walton
Signature

Vice President
Title

(Note: Principal, if corporation, affix corporate seal here.)

HARTFORD ACCIDENT & INDEMNITY CO.
SURETY

6061 S. Willow Dr., Englewood, Colo. 80111
Address

By Pat Cargile
Attorney-in-Fact
Pat Cargile

(Note: Corporate surety affix corporate seal here.)

ACKNOWLEDGMENT FORM FOR NATURAL PERSONS

STATE OF _____)
COUNTY OF _____) ss.

On this _____ day of _____, 19____, before me personally appeared _____, to me known to be the person (persons) described in and who executed the foregoing instrument and acknowledged that he (they) executed the same as his (their) free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

_____
Notary Public

_____
My Commission expires

ACKNOWLEDGMENT FORM FOR CORPORATION

STATE OF New Mexico)
COUNTY OF Lea) ss.

On this 26th day of October, 19 81, before me personally appeared William D. Walton, to me personally known who, being by me duly sworn, did say that he is Vice President of Unichem International, Inc., et al and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

Linda Andrews
Notary Public

4-21-82
My Commission expires

ACKNOWLEDGMENT FORM FOR CORPORATE SURETY

STATE OF New Mexico)
COUNTY OF Lea) ss.

On this 26th day of October, 19 81, before me appeared Pat Cargile, to me personally known, who, being by me duly sworn, did say that he is attorney in fact of HARTFORD ACCIDENT & INDEMNITY CO. and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

Linda Andrews
Notary Public

4-21-82
My Commission expires
(Note: Corporate surety attach power of attorney.)

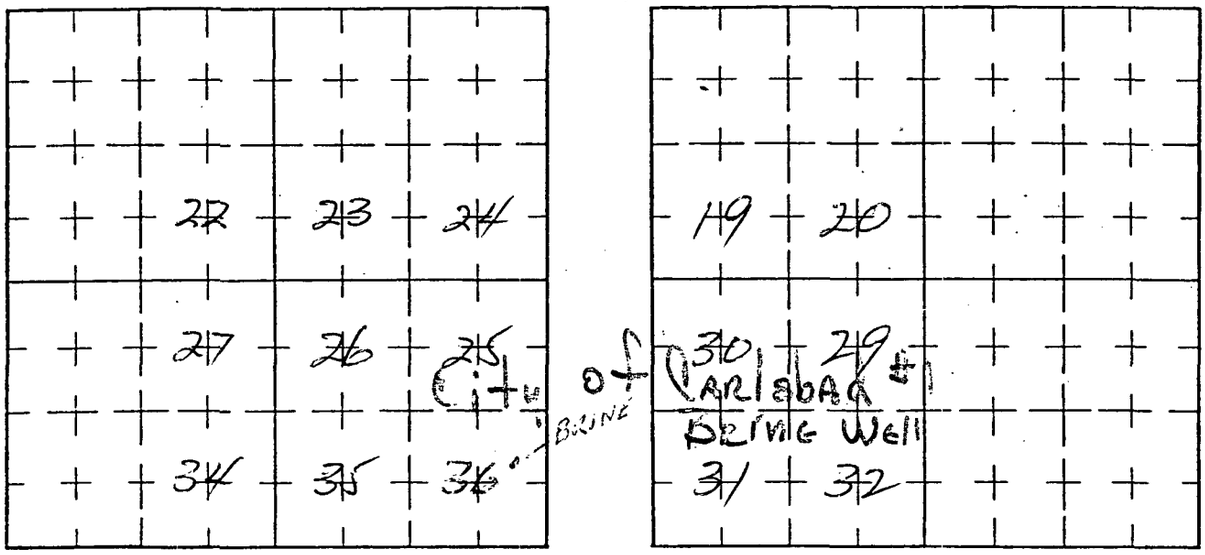
APPROVED BY:
OIL CONSERVATION COMMISSION OF NEW MEXICO

By _____

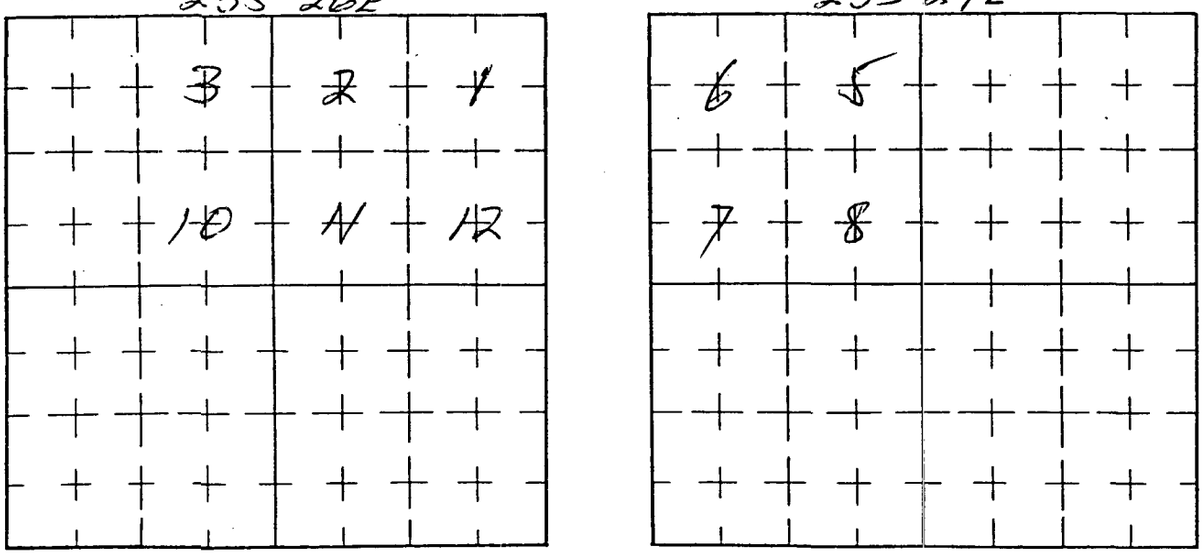
Date _____

Sec._____T._____R._____ Sec._____T._____R._____

22s 26E EDDY Co. 22s 27E



23s 26E 23s 27E



Section 22 Township 22 South Range 26 East

C-1133	SE¼	Domestic
C-1513	NW¼	Domestic

Sec. 23 Twp. 22 S. Card 1 Rge 26 E

C-402	NE¼	Dom
C-405	SW¼SE¼	Dom
C-671	NE¼NE¼NE¼	Dom
C-672	NE¼NE¼	Dom
C-742	NW¼NW¼NE¼	Dom
C-558	NE¼SW¼NW¼	Dom
C-848	SE¼SE¼SW¼	Dom
C-867	NW¼NW¼NE¼	Dom
C-762	N½E½SW¼NE¼	Dom
C-924	N½SW¼NE¼	Dom.
C-941	N½SW¼NE¼	Dom.
C-997	NE¼NW¼NE¼	Dom
C-1309	NW¼SW¼SE¼	Dom.
C-1335	NE¼NW¼NE¼	Dom.
C-1347	SW¼NE¼NE¼	Dom.
C-1410	Shallow SE¼NE¼SW¼NE¼	Dom.
C-1467	N½NE¼ 23-22-26 domestic-stock	
C-1514	Pt. N½SW¼NE¼	dom
C-1574	SW¼NE¼NE¼ Domestic & stock	
C-1600	N½SW¼NE¼ Domestic	
C-1630	SE¼SW¼ Dom. & Stock	
C-1666	N½SW¼NE¼ Domestic	
C-1698	SE¼NW¼SE¼ Domestic	
C-1752	NW¼SE¼ Domestic & Stock	
C-1764	Domestic	
C-1769	NE¼NW¼SE¼ Domestic & Stock	
C-1778	S½NW¼NE¼ Domestic & Stock	

Sec. 23 Township 22 South Card 2 Range 26 East

C-1780	SW¼SW¼NE¼NE¼ Domestic & Stock
C-1796	NW¼SE¼ Domestic & Stock
C-1804	NW¼NE¼ Domestic & Stock
C-1846	NE¼ Dom. & Stk.
C-1876	SW¼NW¼SE¼, 23-22S-26E - Dom. & Stock
C-1894	- NW¼NE¼, 23-22S-26E - Domestic
C-1918	- NW¼SE¼, Domestic
C-1933	NW¼NE¼ - Domestic
C-1981	SE¼SW¼NE¼ Domestic
C-2023	NW¼NE¼ - Domestic
C-2029	NW¼SE¼ 23-22S-26E - Domestic
C-2035	SE¼NE¼ 23-22S-26E - Domestic & Stock

Sec. 24	Twp. 22 S.	Rge E.
C-59		
C-199	NE¼SW¼SW¼	Dom cancelled
C-331	SW¼	Dom
C-490	SW¼	CANCELLED
C-651	Lot 22, Walling Heights	cancelled
C-845	N. Pt. Lot 17 Walling H.	Dom
C-972	NW¼SE¼SW¼	Dom.
C-1144	SW¼ Lot 19 Walling Hts.	Dom.
C-1269	SW¼	Dom.
C-1282	NW¼NW¼	Dom.
C-1425	SW¼SW¼SW¼	Shal. Stock Domestic
C-1471	SW¼SW¼SW¼ 24-22-26	dom.
C-1911	SW¼ Domestic	
C-1939	SW¼	Domestic & Stock

Sec. 25	Twp. 22 S.	Rge 26 E.	
C-90		Dom	
C-167	NW¼SE¼SE¼	Dom	
C-198	SE¼	Dom	
C-223	NW¼		
C-224	NW¼		
C-225	NW¼		
C-226	NW¼	Dom	
C-244	NW¼	Dom	
C-245	NW¼	Dom	CANCELLED
C-296	NW¼		
C-277	SW¼SE¼SE¼	Dom	
C-325	NW¼	Dom	
C-324	NW¼	Dom	

Card II

Sec. 25	Twp. 22 S.	Rge 26 E.
C-334	NW¼	Dom
C-338	NW¼	Dom
C-358	NW¼	Dom
C-366	NE¼	Oil 0-2-E-34
C-401	CANCELLED	Dom
C-435	NW¼	Dom
C-225	NW¼	
C-452	NW¼	Dom
C-529	SE¼SE¼NE¼	Dom
C-568	NW¼NE¼	Dom CANCELLED
C-579	SW¼SE¼NW¼	Dom

Card III

Sec. 25	Twp. 22 S.	Rge 26 E.
C-193-A	SE¼NW¼NE¼	6 ac. CANCELLED
C-227	SE¼NW¼SE¼	Dom
C-609	N½NE¼ Cancelled	Expl.
C-639	N½SW¼NE¼NW¼	Dom
C-666	NE¼NE¼NW¼	Dom
C-223-C & C-533 Comb.	N½N½NE¼SW¼NW¼	2½ ac
C-682 — REPLACED BY C-1772	NE¼NW¼NW¼	Dom
C-723	E½SW¼NW¼NW¼	Dom
C-735	E½E½NW¼	Dom
C-737	Lot 19, Blk D. of Joel Sub. being a part of SE¼	Can. 2-29-60
C-739	NE¼SE¼NW¼	Dom

Card IV

Sec. 25	Twp. 22 S.	Rge 26 E.
C-225-A	$NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Irr.
C-225-B	$E\frac{1}{2}SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Irr.
C-761	Lot 5, Blk 5, Spencer Sub.	Dom
C-789	$E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}$	Dom
C- 763	$N\frac{1}{2}SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom
C-788	Lot 24, B. D. Joel Sub $SE\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$	Dom
C-568	$NW\frac{1}{4}NE\frac{1}{4}$	Dom
C-609	$N\frac{1}{2}NE\frac{1}{4}$	Expl
C-579	$SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom
C-223-A & C-338 Comb.	$E\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Irr denied

Card V

Sec. 25		
C-223-B	$NW\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Irr.
C-223-D	$S\frac{1}{2}N\frac{1}{2}NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	IRr.
C-225-A & C-338 Comb.	$NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Irr.
C-269	$NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Irr.
C-482	$SW\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Dom
C-553	$N\frac{1}{2}N\frac{1}{2}NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Dom
C-826	$W\frac{1}{2}$ Lot 7 Spencer Sub	Dom
C-224 & C-255 Comb.	$SE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	
C-553	$N\frac{1}{2}N\frac{1}{2}NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Dom
C-873	$SE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom
C-874	$S\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom

Card VI

Section 25	Township 22 S.	Range 26 E.
C-878	$SE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$	Domestic
C-902	$NW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$	Dom
C-913	$NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-933	$NW\frac{1}{4}NE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Domestic
C-937	$E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}$	Domestic
C-956	$SE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$	Domestic
C-967	$SE\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$	Domestic
C-968	$NW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-1013	Lot 19, Blk. D	Domestic
C-1024	Lot 4, Blk 6, Spencer Sub	Dom
C-1075	$SE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Domestic
C-1076	$SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Domestic

Section 25	Township 22 South	Range 26 East
C-1121	$SE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1125	$S\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1127	$SW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$	dom.
C-1135	$E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}$	Dom.
C-1507	$NW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	dom-stk

Card VII

Section 25 Township 22 S. Range 26 E.

C-1141	E. 660' of $NW\frac{1}{4}$	Dom.
C-1149	$SE\frac{1}{4}$	Dom.
C-1153	$SW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$	Dom.
C-1193	$NW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1196	$SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1211	$NW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1235	$NW\frac{1}{4}NE\frac{1}{4}$	Expl.
C-1289	$SE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1369	$SW\frac{1}{4}NE\frac{1}{4}$	Dom
C-1370	$SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom
C-1372	$SE\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom.
C-1437	$E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}$	dom.
C-1439	$E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}$	Dom. &Stk.

C-1533 $NW\frac{1}{4}$ Domestic & Stock

C-1681 $NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$ Domestic

C-1739 Domestic

C-1756 $SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$ Domestic

C-1772 $NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$ Domestic and Stock REPLACES C-682

Sec. 26 Twn. 22S Rge. 26E

C-1053	$NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	dom.
C-1243	$SW\frac{1}{4}NW\frac{1}{4}$	Dom.
C-1506	$SE\frac{1}{4}NE\frac{1}{4}$	dom-stock
C-1502	$NW\frac{1}{4}$	dom
C-1515	Pt. $NW\frac{1}{4}$	dom
C-1516	$NW\frac{1}{4}$	dom
C-1535	$NW\frac{1}{4}NW\frac{1}{4}$	Domestic & Stock
C-1655	$SE\frac{1}{4}SW\frac{1}{4}$	Domestic

C-1684 $NW\frac{1}{4}$ Domestic

C-1811 $NE\frac{1}{4}NW\frac{1}{4}$ Domestic & Stock

C-1863 $NW\frac{1}{4}NW\frac{1}{4}$ Domestic and Stock

C-1873 - $NW\frac{1}{4}$, Domestic

(Not Drilled)

C-1893 - $NE\frac{1}{4}NW\frac{1}{4}$ - Domestic /(Replaces well C-1630)

C-1998 - $NE\frac{1}{4}NW\frac{1}{4}$, 26-22S-26E - Domestic

Section 27 Township 22 South Range 26 East

C-1445 $N\frac{1}{2}SE\frac{1}{4}$ 27-22S-26E. Stock

C-1465 $NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$ dom.

Section 35	Twp. 22 South	Rge. 26 East
C-852	$NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$	Decl.

Sec. 36	Twp. 22 South	Rge. 26 East
C-853	$NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Decl.
C-854	$NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Decl.
C-1018	$SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	Dom.

Sec. 19	Twp. 22 S	Rge 27 E
C-17		Dom
C-33		Dom
C-40		Dom
C42		Dom
C-457	$SE\frac{1}{4}$	
C-621	$SE\frac{1}{4}NE\frac{1}{4}$	Decl.
C-451	$SE\frac{1}{4}NE\frac{1}{4}$	Irr

Sec. 19	Twp. 22 S.	Rge 27 E
C-621	$SE\frac{1}{4}NE\frac{1}{4}$	Decl.
C-912	$SE\frac{1}{4}NE\frac{1}{4}$	Dom & Sanitary

Sec. 20	Twp. 22 S	Rge 27 E
C-66		
C-67		
C-74 Enlgd.		
C-114	$SW\frac{1}{4}NW\frac{1}{4}SE\frac{1}{4}$	Irr.
C-147	$NW\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Dom
C-163	$W\frac{1}{2}NE\frac{1}{4}SE\frac{1}{4}SW\frac{1}{4}$	Dom
C-233	$SW\frac{1}{4}$	
C-278	$NW\frac{1}{4}$ CANCELLED	Dom
C-292	$NE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$	IRr.
C-292-S	$N\frac{1}{2}$ & $SE\frac{1}{4}$	
C-540	$SW\frac{1}{4}NW\frac{1}{4}SW\frac{1}{4}$	80 ac.
C-541	$SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$	40 ac.
C-542	$SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	42 ac

Card II

Sec. 20 Twp. 22 Rge 27

C-542-A	SW¼NW¼NW¼	18.7 ac
C-628	NE¼SW¼SW¼	Dom
C-667	SE¼SW¼SW¼	Dom
C-733	SE¼SW¼SW¼	Dom
C-748	Pt. NE¼, Pt. NW¼, Pt. SE¼	Expl. WITHDRAWN
C-130	NE¼NW¼NW¼	Decl.
C-292-A	NE¼NE¼NW¼	IRR.
C-542-A, C-540 C-541 Comb.	SW¼SE¼NW¼, SW¼NW¼SW¼	Irr.
C-74	NE¼SW¼SW¼	Irr.
C-806	NE¼SW¼SE¼	Dom.
C-1035	N½S½SW¼	Dom.
C-1048	SW¼SE¼SW¼	Dom.

(OVER)

Section 20 Township 22 South Range 27 East

C-1246	SW¼SW¼SW¼	Irr.
C-1383	SE¼SW¼SW¼	dom.

C-1768 NE¼NW¼ Domestic & Stock
C-542-A,C-540,C-541-Comb.A - NW¼SE¼NW¼ - Irrig./Shallow

Sec. 29 Twp. 22 S. CARD I Rge 27 E.

C-62	SW¼	
C-172	NW¼NE¼SE¼	160 ac.
C-173	SE¼SE¼SE¼	160 ac.
C-174	SW¼NW¼SE¼	160 ac.
C-175	SW¼NW¼SE¼	160 ac.
C-328	SE¼	Dom cancelled
C-597	NW¼NE¼SW¼	Dom
C-175-S	NW¼NW¼SE¼	Irr.
C-559	SW¼SE¼SE¼	Dom
C-745	S½	Expl.
C-1246-X	SW¼NW¼NW¼	Irr.
C-1246-X-2	SW¼SW¼NW¼	Irr.
C-1246-X-3	SW¼SE¼NW¼	Irr.

(OVER)

Sec. 30 Twp. 22 S. Rge 27 E.

C-451	SE¼NE¼	Irr.
C-31-C & C-228-S-Comb.	NW¼SE¼SE¼	Irr.
C-183	SW¼NW¼SE¼SE¼	Stock
C-31-C	NW¼SE¼SE¼	Irr.
C-1086	W½NW¼	Dom.
~~C-1165~~	~~XXXXXXXXXXXXXXX~~	~~XXXX~~
C-1184	E½SE¼SE¼SE¼	Dom.
C-1356	SE¼NE¼SE¼	Dom.
C-1526	NW¼NW¼NW¼	com.

C-1691 SW¼NW¼NW¼ Dom. & Com.
C-1789 SE NE SE DOM.

Sec. 31	Twp. 22	Rge. 27
C-32--C-32-S	SE¼	(DENIED)
C-217	SE¼	
C-217-S	SE¼	
C-228	NE¼	
C-244	NE¼	Dom.
C-288-S	SW¼NE¼NE¼	113.8 ac.
C-249	NE¼NE¼NE¼	Dom. (CANCELLED)
C-1037	NE¼NE¼NE¼	DOM.
C-228 into C-228-A	NW¼NW¼SW¼	irr.

Sec. 32	Twp. 22 S.	Rge 27 E
C-31		
C-62	NW¼	
C-270	SW¼.	Dom CANCELLED
C-343	NE¼	75 ac.
C-430	NW¼NW¼NE¼	
C-619	SW¼SW¼NE¼	Expl.
C-625	SW¼SW¼NE¼	IRR.
C-625 & C-430-Comb.	SW¼SW¼NE¼	Irr.
C-625 & C-430-Comb.-S	NW¼NW¼NE¼	61 ac.
C-31-D & C-563 Comb.	SW¼NW¼SW¼	Pt. 30 ac

Card II

Sec. 32	Twp. 22 S.	Rge 27 E.
C-193 & C-193 Enlg. & C-343 Comb.-S	E 3/4 SW¼NE¼	Irr.
C-204	SW¼SW¼NE¼	shallow
C-343-A		dom.

C-1749 S½SW¼ 32-22S-27E. Domestic

C-1833 SW¼ Domestic & Stock

Sec 1	Twp 23	Rge 26
C-355	SE¼ Oil Test O-2-E-30	
C-1647	SE¼SW¼SW¼	Domestic
C-1665	SE¼SE¼SW¼	Domestic
C-1754	NW¼SW¼SW¼	Domestic & Stock
C-1960	SW¼SW¼SW¼	Domestic & Stock
C-1985	SE¼SW¼	Domestic & Stock

Sec. 2	Twp. 23	Rge. 26
C-418	SE¼NE¼	CNACELLED

Section 3	Township 22 S.	Range 26 E.
C-1183	E½NW¼NW¼	Dom.

Section 11 Township 23 South Range 26 East

C-1310	$NW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom.
C-1324	$NW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Dom.
C-1548	Pt.$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic
C-1635	$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & Stock
C-1708	$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & Stock
C-1810	*$NE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$*	*Stock & Domestic*
C-1843	$N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & stock
C-1866	$W\frac{1}{2}NE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$	Domestic

Sec. 12 Twp. 23-S Rge. 26-E.

C-934	$NW\frac{1}{4}NW\frac{1}{4}SW\frac{1}{4}$	Dommercial
C-1674	$SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-1678	$SW\frac{1}{4}SW\frac{1}{4}$~~SE~~$\frac{1}{4}$ NE	Domestic - Dry Hole
C-1702	$NE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Domestic & Stock
C-1750	$SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & Stock
C-1806	*$N\frac{1}{2}SE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$*	*Domestic & Stock*
C-1812	*$SE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$*	*Domestic & Stock*
C-1903	$E\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$	Stock/Domestic
C-1904	$SW\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$	Stock
C-1919	$N\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}SW\frac{1}{4}$	Domestic

C-1920 - $SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$, Domestic & Stock

(Over)

C-1922	$NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-2000	$SW\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$	Domestic
C-2041	$E\frac{1}{2}NE\frac{1}{4}NW\frac{1}{4}$	Dom/Stk

Sec. 5	Twp 23 S		Rge 27
C-25	$NW\frac{1}{4}NW\frac{1}{4}SW\frac{1}{4}$		Irr
C-176	$NW\frac{1}{4}NW\frac{1}{4}SE\frac{1}{4}$		Irr
C-296	$NW\frac{1}{4}SE\frac{1}{4}$		Dom
C-323	$SE\frac{1}{4}SE\frac{1}{4}$		Dom
C-1670	$SE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$	Domestic	
C-1671	$SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$	Domestic & Stock	
C-1976	$SW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$	Domestic	

Sec 6	Twp 23		Rge 27
C-28	$N\frac{1}{2}SW\frac{1}{4}NW\frac{1}{4}$		Irr
C-28-S	$S\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}$		
C-29			
C-624	$NE\frac{1}{4}$	Cancelled	Expl
C-1757	$N\frac{1}{2}SE\frac{1}{4}SW\frac{1}{4}$	Domestic & livestock	
C-1900	$NE\frac{1}{4}SW\frac{1}{4}$	Domestic & Stock	

Section 7 Township 23 South Range 27 East

C-1618	$SE\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$	7-23S-27 E.	Commercial
C-1632	$W\frac{1}{2}SE\frac{1}{4}$	7-23-27	Commercial
C-1847	$NW\frac{1}{4}SW\frac{1}{4}$	7-23S-27E	Dom. & Stk.

Sec 8	Twp 23 S.	Rge 27 E
C-50	$NW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$	Irr
C-711	$W\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}$	Dom
C-1071	$NW\frac{1}{4}$	Dom

BSW #9

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

September 20, 1982

Mr. Joe Ramey
Energy and Minerals Department
Oil Conservation Division

RE: Brine Well Discharge Plan
City of Carlsbad
S 36-T22S-R26E Unit H
Eddy County, New Mexico

Dear Sir:

Attached herewith are schematic diagrams of the brine wells and surface facility in Carlsbad, New Mexico.

The brine well was drilled specifically by us, for use in producing brine. It was drilled using cable tools to also determine the possibility of a fresh water supply. We did not penetrate any fresh water bearing zones, and had to add water to drill the entire hole.

The surface storage facility is an old World War II ammunition storage building that we reinforced and lined with gunnite. The storage and well are monitored daily by one of our supervisors who lives on location.

During 1980-81, 800,000 barrels of brine was produced at this facility. The quality of the brine is checked frequently in our laboratory in Hobbs.

We trust this meets your requirement for a suitable discharge plan and meets with your approval.

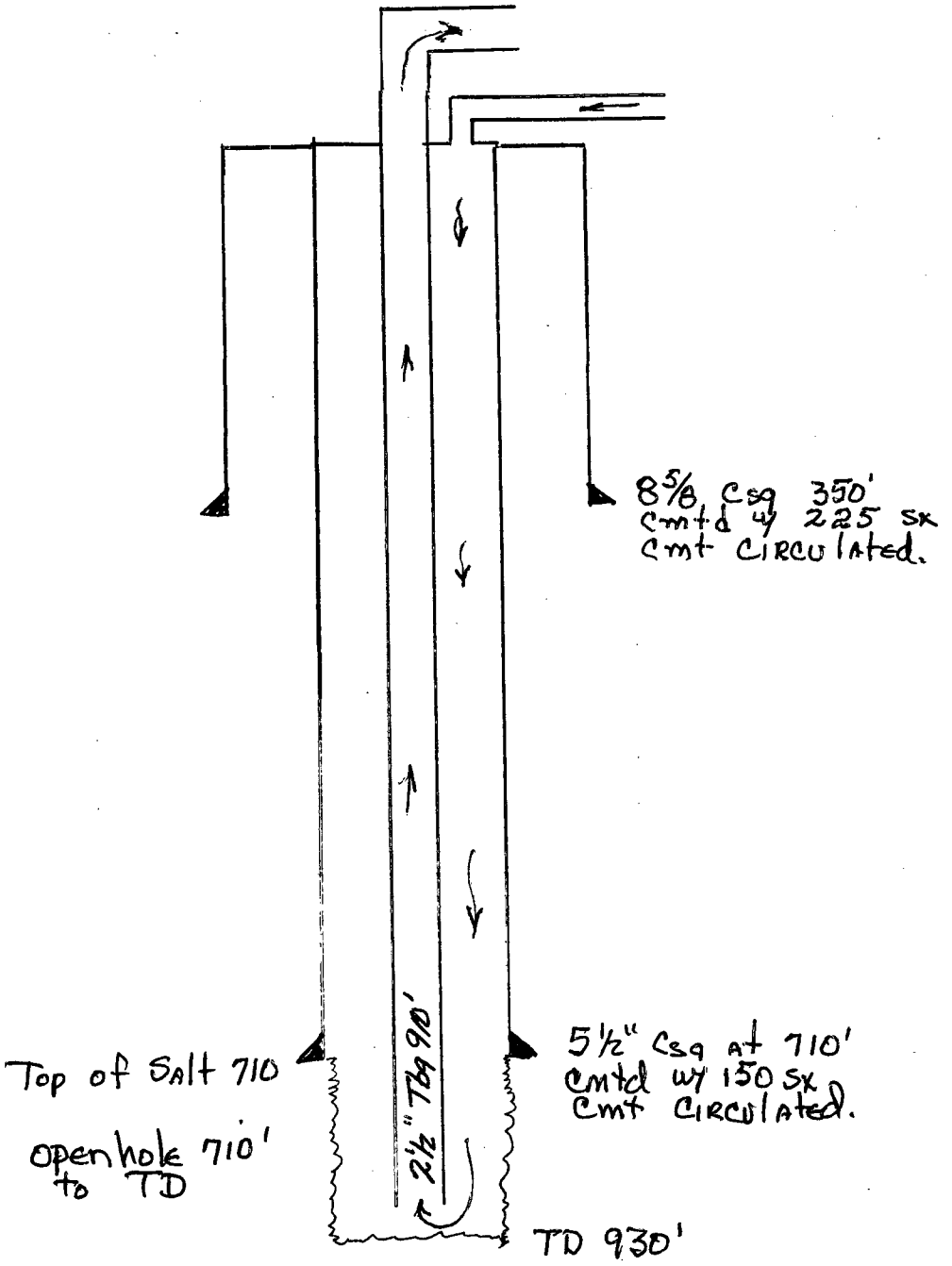
Very truly yours,

UNICHEM INTERNATIONAL INC.

R. J. Brakey
Vice President

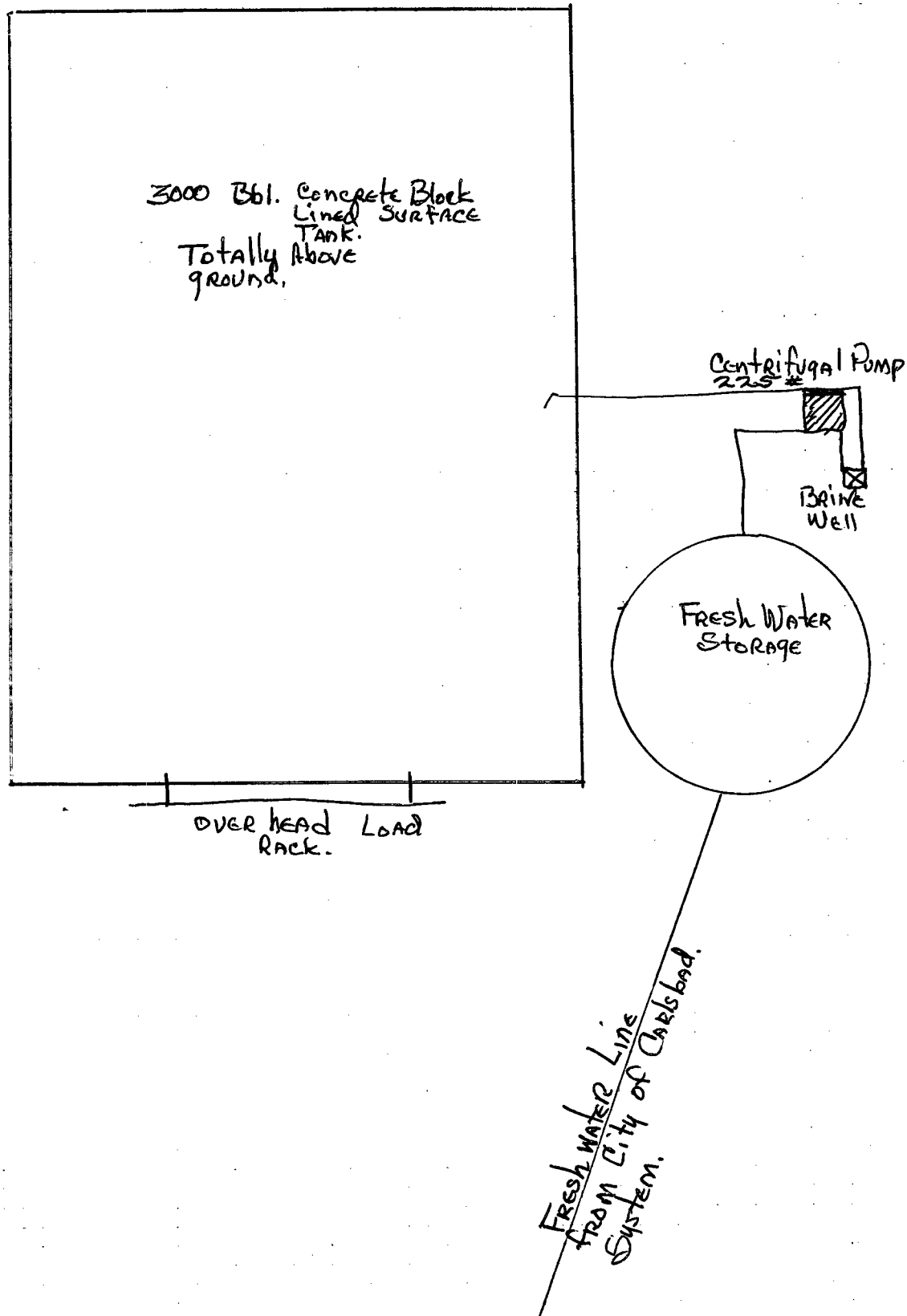
RJB/js

Unichem International /
City of Carlsbad #1
Brine Well
Letter H S36-T22S-R26E Eddy Co., N.M.



Drilled w/ Cabletools
No fresh water encountered.

City of Carlsbad
Brine Storage facility



Unichem International
P.O. Box 1499
Hobbs, NM 88240

attention R. T. Brokey

Re Discharge Plans
for 4 brine Wells
in S.E. New Mexico

Dear Sir:

The Oil Conservation Division (O.C.D.) received your Discharge Plans for 4 brine supply facilities on 12-9-82.

The information you submitted is not complete. Please send the following information as soon as possible.

1 The O.C.D. letter of 10-6-82 shall be addressed to each individual brine facility. Address each brine facility seperately and independently in report formate. Answer all questions in detail

2 Corbford Brine Facility Sec 36, T22S, R26E, Unit H

A The well schematic is not complete.
show length of 5½" casing
Total depth of well
How much is open hole
Show cement.
Show ~~depths~~ tops of Geologic Formations penetrated

B The storage tank to hold brine water.
1 Submit diagrams showing dimentions (sealed)
2 Show how you converted the ammunition storage
building to holding tank for brine water
4 Submit Pictures
5 ~~Show~~ What is the holding capacity.
6 How is water level maintained and controlled to prevent overflow.
of the tank.

C Your letter 10-23-81 second paragraph. The statement that fresh water is injected into the salt section at 742 feet contradicts your well schematic diagram. Explain!

D Submit another photo copy of your chemical analysis of brine. The one in the report is illegable.
Also submit a chemical analysis of the Carlsbad ~~supply~~ water. The city can provide copies of analysis for you.

D Describe & show dimentions of fresh water storage tank

E Show ~~the~~ the location of the water meter.

F You have not addressed and explained how your facility is monitored daily by one of your supervisors.
Especially to detect leakage or spillage of your facility

6 Submit a detailed schematic flow diagram of your facility beginning with incoming fresh water to loading of the brine and any spill prevention methods

H Describe in detail how many times over the past operation of the prior well casing pulled, cleaned, and replaced.

I Submit records of comparision of water used versus water produced.

J Submit proposed method or method along to detect leakage from brine storage tanks.

K Submit contingency plans to cope with failure of the disposal plan or system.

L Your contension that there is no ground water to protect is not substanciated from the well files from the state engineers office you submitted. You must address question 3 of section 3-106 (C) of the WQCC regulations in detail. You need outside expertise to assist you in the hydrologic ground water conditions in the area.

CARLSBAD #1

INVENTORY OF SOLUTION MINING WELLS   OIL CONSERVATION DIVISION, 1981

* = please attach pertinent documents

I. OPERATOR / LOCATION INFORMATION

description is for City of Carlsbad well (Unichem.)

Operator TRUCKERS WATER CO. (ROWLAND TRUCKING CO.)

Address P.O. BOX 1499, HOBBS NM   CONTACT: BOB BRAKEY - 1-393-6225, JAMES PARKER 1-394-2512

88240 Phone 1-885-2053

Well unit # 1 Lse. City of Carlsbad Location 2420 FNL/330 FEL

T. 22 S R. 26E Sec. 36 SE 1/4 SE 1/4 NE 1/4

County Eddy   .144

Purpose of well (brine supply, LPG storage, potash dissolution)

BRINE SUPPLY

II. DRILLING / SITING INFORMATION

Contractor N/A

Date drilling started 7-13-76 Date drilling completed 8-20-76

Drilling method CABLE TOOL

Elevation of ground surface PI 3228 How measured

Date measured 12-18-75 Order of survey

Name of surveyor JOHN WEST

Total depth of hole 930'

Attach schematic of well, include open hole interval, perforations, etc. *

Type of drilling fluid N/A CABLE TOOL

Type of drilling mud if used (brand if known) N/A

10# MUD @ 710 - 930 (SALT GEL)

List any additives to the drilling mud, or any other chemicals put down well:

N/A

Describe casing tests performed Bumped plug pressured up to 1000#.

Other tests NONE

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OPERATOR	1	

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SEP 13 1976
O. C. C.
ARTESIA, OFFICE

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: Salt Mining #M19264

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL [ ] GAS WELL [ ] OTHER- Brine Well

7. Unit Agreement Name:

2. Name of Operator: Truckers Water Company, Inc.

8. Farm or Lease Name: City of Carlsbad

3. Address of Operator: P. O. Box 1499, Hobbs, New Mexico 88240

9. Well No.: 1

4. Location of Well: UNIT LETTER H, 2420 FEET FROM THE North LINE AND 330 FEET FROM THE East LINE, SECTION 36 TOWNSHIP 22S RANGE 26E N.M.P.M.

10. Field and Pool, or Wildcat: Wildcat

15. Elevation (Show whether DF, RT, GR, etc.)

12. County

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTERING CASING [ ]
TEMPORARILY ABANDON [ ]		COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [ ]
PULL OR ALTER CASING [ ]	CHANGE PLANS [ ]	CASING TEST AND CEMENT JOB [X]	
OTHER [ ]		OTHER [ ]	

17. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103.

Ran 350' 8 5/8" 32# casing
Cemented with 225 sx Class "C" plus 2% Calcium Chloride
Cement circulated
W. O. C. 24 hours and bailed dry
Drilled out cement and bailed dry
Drilled to 930' TD hole remained dry

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED R. Bruning TITLE Vice-President DATE 9-9-76

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE SEP 30 1976

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SEP 13 1976
O. C. C.
ARTESIA, OFFICE

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease
State [X] Fee [ ]

5. State Oil & Gas Lease No.
Salt Mining #M19264

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

7. Unit Agreement Name

OIL WELL [ ] GAS WELL [ ] OTHER- Brine Well

2. Name of Operator
Truckers Water Company, Inc.

8. Farm or Lease Name
City of Carlsbad

3. Address of Operator
P. O. Box 1499, Hobbs, New Mexico 88240

9. Well No.
1

4. Location of Well
UNIT LETTER H , 2420 FEET FROM THE North LINE AND 330 FEET FROM THE East LINE, SECTION 36 TOWNSHIP 22S RANGE 26E NMPM.

10. Field and Pool, or Wildcat
Wildcat

15. Elevation (Show whether DF, RT, GR, etc.)

12. County
Eddy

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTERING CASING [ ]
TEMPORARILY ABANDON [ ]		COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [ ]
PULL OR ALTER CASING [ ]	CHANGE PLANS [ ]	CASING TEST AND CEMENT JOB [X]	
OTHER [ ]		OTHER [ ]	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Drilled well to 930 feet total depth.
Ran 5 1/2" 14# casing to 710'
Spotted 10# mud in rat-hole from 710' to 930'
cemented casing with 150 sx class "C" cement with 4% Calcium Chloride added
Circulated an extimate of 15 sx.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED _____ TITLE Vice-President DATE 9-9-76

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE SEP 30 1976

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U.S.G.S.	2	
LAND OFFICE	1	
OPERATOR		

Bureau of Mines

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NEW MEXICO OIL CONSERVATION COMMISSION

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

SEP 13 1976

O. C. C.
ARTESIA, OFFICE

Form C-105
Revised 1-1-65

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: Salt Mining #M19264

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [ ] OTHER Brine Well

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER

7. Unit Agreement Name:

8. Farm or Lease Name: City of Carlsbad

2. Name of Operator: Truckers Water Company

9. Well No.: 1

3. Address of Operator: P. O. Box 1499, Hobbs, New Mexico 88240

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well: UNIT LETTER H LOCATED 2420 FEET FROM THE North LINE AND 330 FEET FROM THE East LINE OF SEC. 36 TWP. 22S RGE. 26E NMPM

12. County: Eddy

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
7-13-76	8-20-76	8-31-76		

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
930			→		X

24. Producing Interval(s), of this completion — Top, Bottom, Name: Salt - 710' Salt 930'

25. Was Directional Survey Made: No

26. Type Electric and Other Logs Run: None

27. Was Well Cored: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8	32#	350'	13"	225 sx Class C	
5 1/2	14#	710'	7 7/8"	150 sx Class C	

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8	926'	No

31. Perforation Record (Interval, size and number)

Open hole 710 - 930

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

POSTED ID-2 + corr 10-1-76

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)
8-31	Circulating fresh water	Circulating

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Gas—Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Oil Gravity — API (Corr.)

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED R. Bailey TITLE Vice-President DATE 9-9-76

Dowell - 746-4115

NEW MEXICO OIL CONSERVATION COMMISSION
DRAWER DD
ARTESIA, NEW MEXICO

FIELD REPORT FOR CEMENTING OF WELLS

Operator	Lease	Well #
Truckers Water Co Assoc.	City of Carlsbad Basin Supply	1

Location of Well	Unit	Section	Township	Range	County
	H 2242 N 330 E	36	22	26	Eddy

Drilling Contractor	Type of Equipment
	Cable tools

APPROVED CASING PROGRAM

Size of Hole	Size of Casing	Weight Per Foot	New or Used	Depth	Sacks Cement
12 1/4"	8 5/8"	24		350	150 circ.
7 7/8"	5 1/2	15.5		650	200 circ.

Casing Data:

Surface 13 joints of 8 5/8 inch 32 # Grade J-55

(Approved) ~~(Rejected)~~

Inspected by Nick Tinker date

Cementing Program

Size of hole 10" Size of Casing 8 5/8 Sacks cement required 225

Type of Shoe used ____ Float collar used ____ Btm 3 jts welded ____

TD of hole 350' Set 350' Feet of 8 5/8 Inch 32 # Grade J-55

New-~~used~~ csg. @ 350' with 225 sacks neat cement around shoe

+ ____ sax ____ additives 2% Gel

Plug down @ 1:30 ~~(AM)~~ (PM) Date 7-17-96

Cement circulated Yes No. of Sacks 0

Cemented by Dowell Witnessed by Nick Tinker

Temp. Survey ran @ ____ (AM) (PM) Date ____ top cement @ ____

Casing test @ ____ (AM) (PM) Date ____

Method Used ____ Witnessed by ____

Checked for shut off @ ____ (AM) (PM) Date ____

Method used ____ Witnessed by ____

Remarks: Cement circulated but settled back about 12' so used ready-mix to surface.

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico			
T. Anhy	240	T. Canyon		T. Ojo Alamo		T. Penn. "B"	
T. Salt	715	T. Strawn		T. Kirtland-Fruitland		T. Penn. "C"	
B. Salt		T. Atoka		T. Pictured Cliffs		T. Penn. "D"	
T. Yates		T. Miss		T. Cliff House		T. Leadville	
T. 7 Rivers		T. Devonian		T. Menefee		T. Madison	
T. Queen		T. Silurian		T. Point Lookout		T. Elbert	
T. Grayburg		T. Montoya		T. Mancos		T. McCracken	
T. San Andres		T. Simpson		T. Gallup		T. Ignacio Qtzte	
T. Glorieta		T. McKee		Base Greenhorn		T. Granite	
T. Paddock		T. Ellenburger		T. Dakota		T.	
T. Blinebry		T. Gr. Wash		T. Morrison		T.	
T. Tubb		T. Granite		T. Todilto		T.	
T. Drinkard		T. Delaware Sand		T. Entrada		T.	
T. Abo		T. Bone Springs		T. Wingate		T.	
T. Wolfcamp		T.		T. Chinle		T.	
T. Penn.		T.		T. Permian		T.	
T Cisco (Bough C)		T.		T. Penn. "A"		T.	

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	210	210	Red bed and shale				
210	240	30	Anhydrite and shale				
240	715	475	Anhydrite				
715	TD	211	Salt				

* = please attach pertinent documents

II. DRILLING / SITING (continued)

Casing, tubing, and cementing record (please attach copy)*

Note: if a copy is not available detail casing record on back of this sheet using the following format. Include brand or type of cement if known.

From	To	Size of Hole	Size of Casing	Weight per Foot	Sacks of Cement	Estimated Top of cmt.

Was mudcake on bore wall removed before cementing production casing? N/A

Was salt saturated cementing material used opposite salt formation? NO

Is site within 1/2 mile of another well? If so, use note to explain. YES

Site preparation (concrete pad, graded dirt, pit, etc) Graded caliche & dirt.

Type of surface seal or well-head (locking security cap, welded, etc.) well head. see sketch

Comments (include problems encountered while drilling, loss of circulation, deviation of hole from vertical, centralizers used, tools lost or stuck, fracturing techniques used, etc.) NO TOOLS LOST OR STUCK, NO PROBLEMS drilling or w/ loss of circ. as per Bob Brakey

(use back of sheet if more space is required)

* = please attach pertinent documents

III. FORMATION INFORMATION

Formation Record

From	To	Thickness	Formation (name, description)

SEE FM. REC.

Logs (specify type) NO LOGS RAN

Identify where logs are on file

* = please attach pertinent documents

IV. AQUIFER INFORMATION

Aquifers encountered during drilling

From	To	Aquifer Description	Amount of Water entering hole	Quality of Water

NO (water zones) AQUIFERS ENCOUNTERED AS PER BILL BRAKEY
TD 930 HOLE STILL DRY.

Mr. Spencer (farmer) 1½ NE of site has two irrigation wells pumping between 200 - 220'. Water can grow barley, cotton, alfalfa, not suitable to drink*

* AS PER MR. SPENCER

Note: if water quality analyses are available please attach.*

Source of aquifer description	N/A	Ls. w/hard clay below.
Depth at which water was first encountered	N/A per opr.	per farmer 200'
Depth to which water rose	N/A	N/A
Source of water level data	N/A	FARMER.

Comments (include information regarding determination of piezometric level and method of sealing off water zone) ~~N/A~~ csg. circ.

INVENTORY OF SOLUTION MINING WELLS OIL CONSERVATION DIVISION, 1981

* = please attach pertinent documents

V. PRODUCTION / BRINE STORAGE (continued)

Brine storage facilities (describe) Cinder block & cement pit (STORAGE PIT) 78' x 39' x 10' 3 500bbl tanks for fw.

Current condition/status of brine storage pit good shape, was a bomb shelter w/ 20" of cmt & steel on bottom 16lb. cinder blocks on sides filled w/ cmt.

Is brine storage pit currently being monitored for leakage? no

Specify company or agency which is monitoring leakage —

If pit leakage has been monitored in past use note to explain.

Comments on production history (note if production rates or brine concentrations have changed through time) Conc. (wt.) stable as per. opr. prod. based on sales.

* = please attach pertinent documents

V. PRODUCTION / BRINE STORAGE INFORMATION

Method of production (describe fully) PUMP FW DOWN TBG. & PRODUCE BRINE THRU CASING/TUBING ANNULUS. THEN TO AVOID SALTING OFF REVERSE DIRECTION i.e. PUMP DOWN ANNULUS & PRODUCE THRU TBG.

Was well used previously for some purpose other than brine supply, potash dissolution, or LPG storage. If so use note to explain. NO OTHER PURPOSE

Use of brine DRLNG. & PROD.

Source of injection water (be specific) City of Carlsbad water line

Attach detailed production history (include dates of production, amount of water injected, injection rates, amount of brine produced, production rates, method of gaging injection/production rates)*

Note: If the cavity was used for LPG storage include volumes of product injected and withdrawn as well as a summary of the maximum and minimum pressures during injection, storage and withdrawal.

Chemical analyses of injection water (attach)* CITY OF CARLSBAD DRINKING H_2O.

Note : Chemical analyses should include sampling point and method, pH, temperature, method of analysis, name and location of laboratory, etc.

Chemical analyses of water produced (attach)*

* = please attach pertinent documents

VI. ABANDONMENT / PLUGGING RECORD

Date well abandoned/plugged NO INTENTIONS TO P&A.

Reason for well abandonment or plugging _____

Method of Plugging (describe fully, include amounts of cement, est. top, plug type, depth, etc.) _____

VII. Further comments (subsidence noted, subsidence monitoring, leakage noted, natural subsidence features noted nearby, LPG storage data, etc.)

NO SUBSIDENCE NOTICED, NO LEAKAGE, NO NAT. SUBS. FEATURES NOTICED. NO SUBS. MONITOR

Recorded by Larry Brooks

Date 10/23/81

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

November 4, 1981

New Mexico Oil Conservation Commission
P. O. Drawer "DD"
Artesia, New Mexico 88210

ATTN: Mr. Larry Brooks

Gentlemen:

The following is a breadkwon by month of brine production based on actual sales and fresh water purchased at the brine well site from the City of Carlsbad:

DATE	BRINE	FRESH	
8/76	150 bbls.		
9/76	5788 bbls.	833 bbls.	225 psi
10/76	5180 bbls.	8667 bbls.	225 psi
11/76	14660 bbls.	19167 bbls.	225 psi
12/76	18250 bbls.	21405 bbls.	225 psi
1/77	13272 bbls.	14238 bbls.	225 psi
2/77	21795 bbls.	19500 bbls.	225 psi
3/77	15225 bbls.	19524 bbls.	225 psi
4/77	24265 bbls.	23048 bbls.	225 psi
5/77	29380 bbls.	29429 bbls.	225 psi
6/77	18680 bbls.	18048 bbls.	225 psi
7/77	31745 bbls.	26333 bbls.	225 psi
8/77	30455 bbls.	38071 bbls.	225 psi
9/77	44920 bbls.	62405 bbls.	225 psi
10/77	16189 bbls.	19762 bbls.	225 psi
11/77	29295 bbls.	34619 bbls.	225 psi
12/77	31608 bbls.	34976 bbls.	225 psi

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

New Mexico Oil Conservation Commission
Mr. Larry Brooks

DATE	BRINE	FRESH	
3/80	20573 bbls.	20667 bbls.	225 psi
4/80	34415 bbls.	31857 bbls.	225 psi
5/80	41195 bbls.	43881 bbls.	225 psi
6/80	25525 bbls.	21024 bbls.	225 psi
7/80	32953 bbls.	31167 bbls.	225 psi
8/80	19440 bbls.	23310 bbls.	225 psi
9/80	21755 bbls.	22976 bbls.	225 psi
10/80	39155 bbls.	39880 bbls.	225 psi
11/80	35865 bbls.	38952 bbls.	225 psi
12/80	51988 bbls.	56524 bbls.	225 psi
1/81	32247 bbls.	28952 bbls.	225 psi
2/81	31955 bbls.	39762 bbls.	225 psi
3/81	34670 bbls.	40214 bbls.	225 psi
4/81	44265 bbls.	39119 bbls.	225 psi
5/81	26795 bbls.	26310 bbls.	225 psi
6/81	33447 bbls.	33738 bbls.	225 psi
7/81	51910 bbls.	53905 bbls.	225 psi
8/81	30195 bbls.	32214 bbls.	225 psi
9/81	39649 bbls.	45929 bbls.	225 psi

The injection rate on fresh water stays constant as we have an auxilliary pump on the fresh water lines to inject fluid down the well. This rate is approximately 225 psi. The well is timed to produce thirty minutes (30) on and thirty minutes (30) off each hour and produces between One Hundred Fifty (150) and One Hundred Sixty (160) barrels per hour.

Some fresh water is sold as fresh water for which we have no breakdown. Also, in accounting for the fresh water used, we would have to take into consideration that there is a trailer house at the well site which is hooked up to the fresh water supply. On several occasions the fresh

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

water lines have broken or been broken by equipment working in the area allowing large quantities of water to run out on the ground.

We hope this information helps you compile the data necessary to your report. If we may be of further service, please contact us.

Yours truly,

EUNICE RENTAL TOOL CO.

Mary Hughes
Office Manager

MH/s

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

October 23, 1981

Bond under Truckers H_2O Co.

New Mexico Oil Conservation Commission
P. O. Drawer "DD"
Artesia, New Mexico 88210

ATTN: Mr. Larry Brooks

Gentltmen:

In answer to your request, the following is a general production history of our brine well, City of Carlsbad # 1, located in Unit letter H, 2420' from the north line and 330' from the east line of Section 36, Township 22 South, Range 26 East, Eddy County, New Mexico.

Application to drill was filed in May, 1976, drilling completed and the well put into production in August, 1976. Brine water is produced by pumping fresh water from the City of Carlsbad with an auxiliary pump at the rate of 225 psi into the salt section at approximately 742 feet. Brine water can be produced at a rate of 160 barrels per hour. Storage capacity at the well site is 3000 barrels. A brine sales meter was installed in December, 1978, which is used to meter production of brine. Fresh water meters belong to the City of Carlsbad.

The following is a breakdown by month of brine production based on actual sales by the barrel.

8/76	150	5/77	29380	2/78	61340	11/78	17277
9/76	5788	6/77	18680	3/78	62244	12/78	42445
10/76	5180	7/77	31745	4/78	17713	1/79	46220
11/76	14660	8/77	30455	5/78	23565	2/79	26843
12/76	18250	9/77	44920	6/78	34326	3/79	22060
1/77	13272	10/77	16189	7/78	70789	4/79	26140
2/77	21795	11/77	29295	8/78	46808	5/79	14940
3/77	15225	12/77	31608	9/78	49740	6/79	26235
4/77	24265	1/78	57986	10/78	38456	7/79	32180

EUNICE RENTAL TOOL COMPANY DIVISION
UNICHEM INTERNATIONAL, INC.
P. O. Box 1196
EUNICE, NEW MEXICO 88231

8/79	57339	3/80	20573	10/80	39155	5/81	26795
9/79	25662	4/80	34415	11/80	35865	6/81	33447
10/79	40065	5/80	41195	12/80	51988	7/81	51910
11/79	31274	6/80	25525	1/81	32247	8/81	30195
12/79	21587	7/80	32953	2/81	31955	9/81	39649
1/80	35918	8/80	19440	3/81	34670		
2/80	18435	9/80	21755	4/81	44265		

We are enclosing a copy of the water analysis of the brine water produced from this well.

If there is any additional information you need, please contact us.

Yours truly,

Eunice Rental Tool Co. Division
UNICHEM INTERNATIONAL, INC.

Mary Hughes

Office Manager

MH/s

Encl:

WATER ANALYSIS — IONIC

TELEPHONE: HOBBS 393-7751
AREA CODE - 505

KE-TONE®

UNITED CHEMICAL CORPORATION
OF NEW MEXICO
601 NORTH LEECH P. O. BOX 1499
HOBBS, NEW MEXICO 88240

Company Rowland Trucking

Field

Lease Carlsbad Brine Well Sampling Date 9-14-77

Type of Sample Trucker's Brine

WATER ANALYSIS

IONIC FORM		me/l *	mg/l *
Calcium (Ca++)		90.00	1,800
Magnesium (Mg++)		42.00	504
Sodium (Na+)	(CALCULATED)	5,265.89	121,063
Iron (Total)			2
Bicarbonate (HCO_3)		2.60	159
Carbonate (CO_3 -)		Not	Found
Hydroxide (OH-)		Not	Found
Sulphate (SO_4 -)		93.69	4,500
Chloride (Cl-)		5,301.60	188,000
Total Dissolved Solids			316,026
6.9 ph c 68 °F			
Dissolved Solids on Evap. at 103° - 105° C			
Hardness as Ca CO_3		132.00	6,600
Carbonate Hardness as $CaCO_3$ (temporary)		2.60	130
Non-Carbonate Hardness as $CaCO_3$ (permanent)		129.40	6,470
Alkalinity as $CaCO_3$		2.60	130
Specific Gravity c 68° F	1.195		

* mg/l = milligrams per Liter
* me/l = milliequivalents per Liter

El. 3228

0

TRUCKERS H_2O CO.

CITY OF CARLSBAD #1

H-36-22-26.

Red beds

210

210

Redbeds & sh.

240

240

8 5/8 @ 350' CMT. CIRC.

Anhydrite

715

5½ @ 710 CMT CIRC.

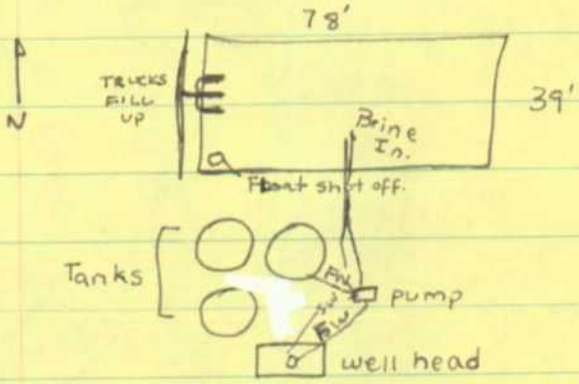
TX715

TD TX 930

TD @ 926'

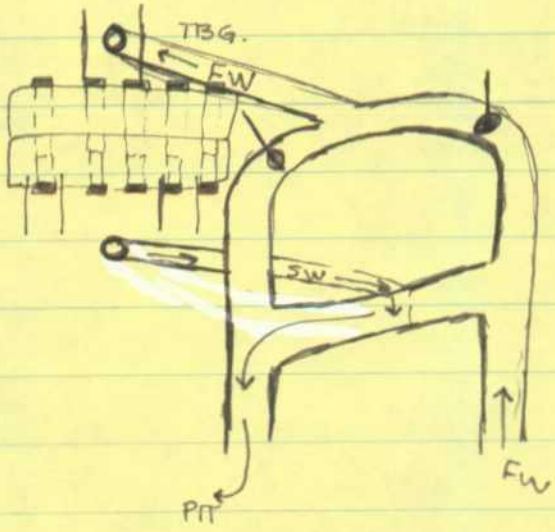
CITY OF CARLSBAD #1. H-36-22-26

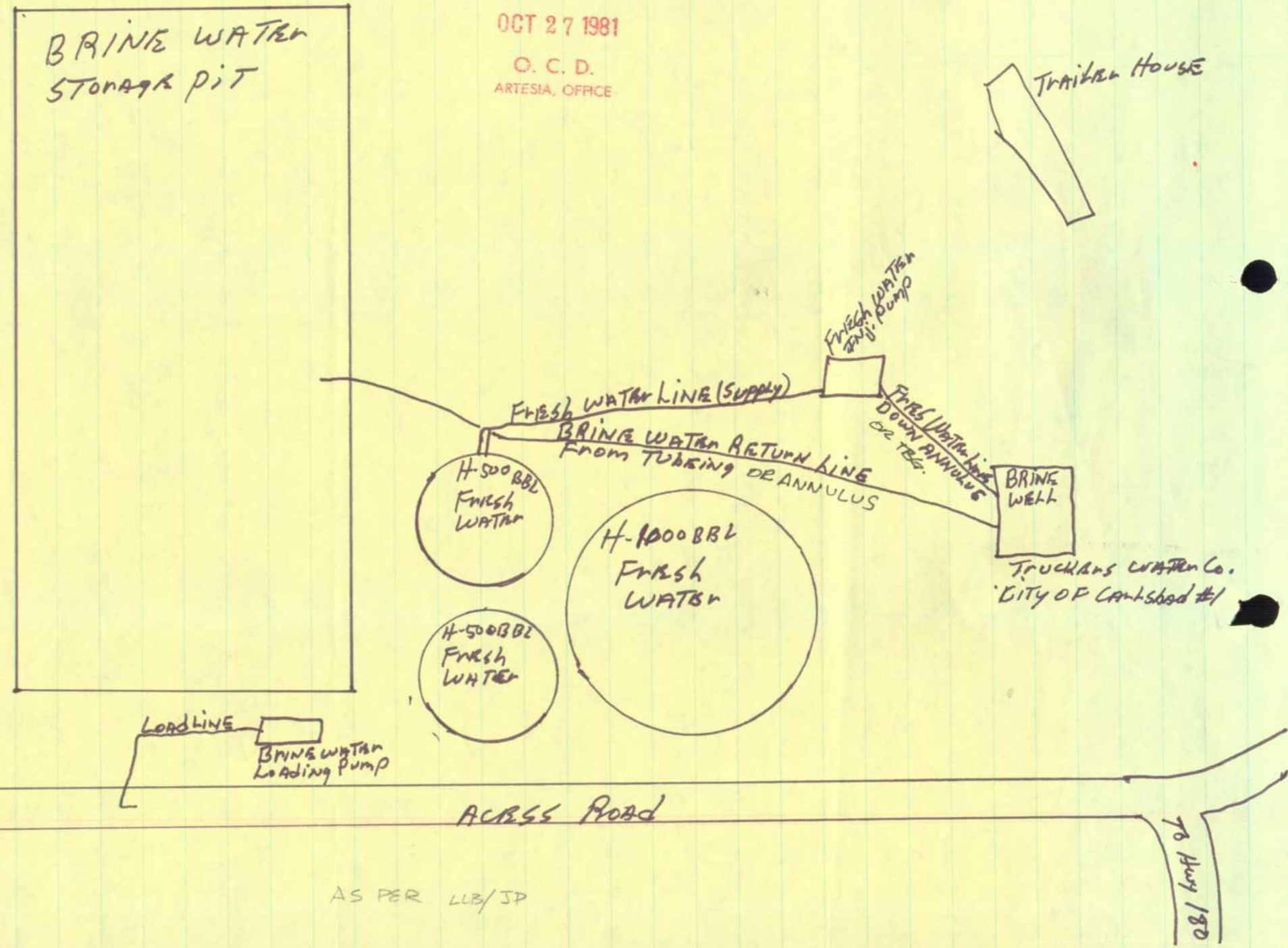
SUR. EQUIP.



78x39x10

Well head.





AS PER LLB/JP

4/24/92

Memo

From

KATHY BROWN
Geologist

To K. Brown; From Norman Denton Rowland Trucking

Eunice injection pressure 190-200 psi.
Shut-down pressure 230 psi.

Carlsbad Station - injection pressure 200 psi. Shut-down pressure 235 psi.

Oil Conservation Division Santa Fe, New Mexico 87504-2088
(505) 827-5824

Unichem Carlsbad DP 372 DEC. 1988
Well head / Pumphouse

Unichem Carlsbad DP-377 Dec 1988

well head

Unichem Carlsbad DP-372 Dec 1988
Loading Area; Fresh H_2O and
Brine in Frac tanks in Background.

Unichem Carlsbad DP-372 Dec. 1988
Loading Area

Unichem Carlsbad DP-372 Dec 1988

Field vehicle;
Frac tanks

8/27/91

Unichem Carlsbad Brine Facility

Salt encrusted area behind facility.

KMB

8/27/91

Unichem Carlsbad Brine Facility

3- older tanks

KMB

8/27/91

Unichem Carlsbad Boine Facility

KMB

8/27/91

Unichem Carlsbad Brine Facility

Loading valve & sump

KMB


QPC

8/27/91

Unichem Carlsbad Brine Facility

Digging up underground brine lines

RMB

8/27/91

Unichem Carlsbad Brine Facility

Brine tanks & loading area

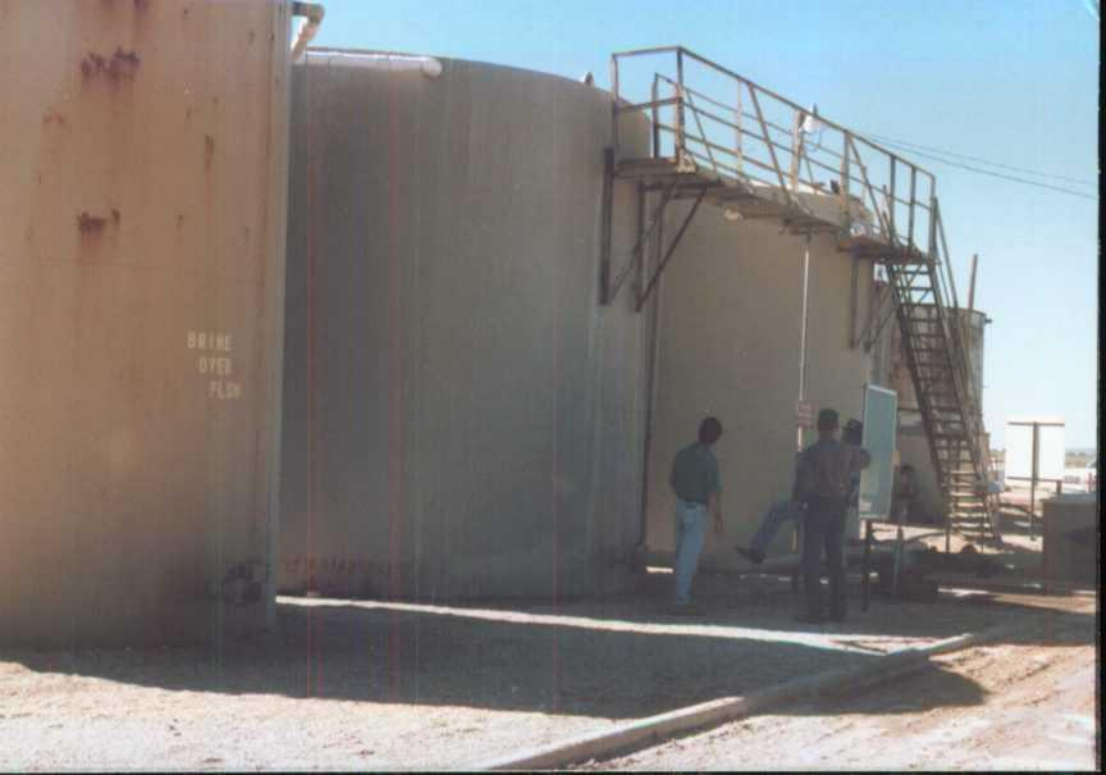
KMB

ROWLAND - CARUSSIO (BW) 4

8-16-94

ROWLAND - CROSBIE (BW)

9-16-96


BRINE
OVER
FLOW

RUBIO - CARLSBAD (BW)
9-16-96

ROWLAND - CARLSBAD (RW)
9/16-96

7

ROWLAND - CARLSBAD (BW)

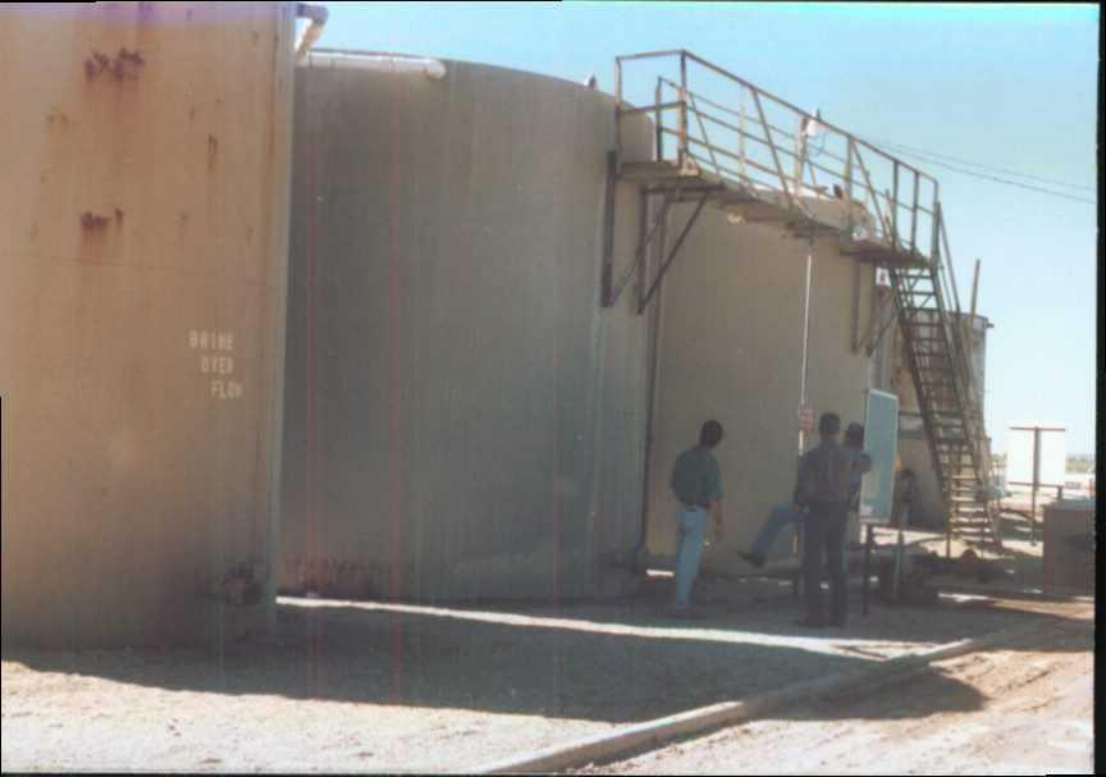
8

9-16-96

ROWLAND - CARLSON (BW)
9-16-24

ROWLAND - CARLSBAD (BW) 5

9-16-96


BRINE
DYED
FLOW

ROWLAND - CARLSBAD (BW)
9-16-91

ROWLAND - CARUSO (CW)

1-16-96

7

CARLSBAD BRINE STATION

Discharge Plan
Permit Submittal #2

December 3, 1986

UNICHEM
INTERNATIONAL

UNICHEM
INTERNATIONAL

CARLSBAD BRINE STATION

DISCHARGE PLAN PERMIT SUBMITTAL #2

Presented to:

STATE OF NEW MEXICO

Environmental Improvement Division

UNICHEM INTERNATIONAL INC.
P.O. BOX 1499
HOBBS, NEW MEXICO 88240

Prepared by:
Wayne Price, Staff Engineer

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

December 3, 1986

VIA CERTIFIED MAIL

Mr. Kevin Lambert, Hydrologist
Ground Water & Hazardous Waste Bureau
State of New Mexico
Environmental Improvement Division
P.O. Box 968, Runnels Building
Santa Fe, NM 87504-0968

Dear Kevin,

SUBJECT: Carlsbad Brine Station
Discharge Plan Permit Submittal #2

In response to the questions and comments generated during our telephone conversation of November 13, 1986, enclosed is a detailed list of questions, answers, and attachments for the above-referenced facility.

Please accept this submittal as the second requirement for obtaining a complete Part 3 and 5 EID Discharge Plan permit. If you have any questions about the enclosed information, please do not hesitate to contact me.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price

Wayne Price
Staff Engineer

WP:mms

Enclosure

TABLE OF CONTENTS

UNICHEM INTERNATIONAL

QUESTIONS AND ANSWERS

Carlsbad Brine Station
Submittal #2 - December 3, 1986

Q: Are the proposed frac tanks considered temporary or permanent? OK

A: These tanks are considered a permanent installation.

Q: It has been recommended by the EID that a berm be installed around the frac tanks to act as an emergency spill collection system. OK

A: Unichem will incorporate this recommendation into the Discharge Plan, per Exhibit A.

Q: Please provide plans and specifications for the drainback system. OK

A: Please refer to the Discharge Plan Permit Submittal provided for the Carlsbad Brine Station on October 6, 1986. The information requested above is provided in Exhibit B of that submittal which is entitled "Proposed Plot Plan", and details the spill collection schematic. For the specifications on the proposed 30 mil liner, please refer to Exhibit B of this submittal.

Q: Commit to the general requirements set forth in the Water Quality Control Commission regulations on monitoring (5-207) and reporting (5-208) requirements for in situ extraction wells. OK

A: Unichem will monitor and report as necessary to fulfill the requirements set forth in Sections 5-207 and 5-208 of the WQCC regulations.

Q: Please report on a quarterly basis the following chemical parameters for the produced brine: OK

(1) Chlorides;
(2) Sulfates;
(3) Nitrates;
(4) Total Dissolved Solids (TDS)

A: In accordance with this request, Unichem will test and analyze the produced brine on a quarterly basis, submitting to the EID the parameters listed above.

QUESTIONS AND ANSWERS
(Continuation)

Carlsbad Brine Station

Q: Please report on an annual basis the following chemical parameters for the produced brine: OK ✓

(1) Sodium;
(2) Potassium;
(3) Calcium;
(4) Magnesium;
(5) Carbonate;
(6) Bicarbonate

A: In accordance with this request, Unichem will test and analyze the produced brine on an annual basis, submitting to the EID the parameters requested above.

Q: At least once a year, provide a mechanical integrity test on the brine well. OK ✓

A: In compliance with this request, Unichem will perform integrity testing and report the results to the EID on an annual basis.

Q: Item 5-207-A, Monitoring Requirements: OK ✓

A. The discharger shall demonstrate mechanical integrity for each effluent disposal well or in situ extraction well at least once every five years during the life of the well pursuant to Section 5-204.

A: In order to substantiate the mechanical integrity of the well, Unichem will perform a bond log at least every five years, to commence the fifth year following issuance of the initial submittal.

Q: Please report on a quarterly basis the injection volumes and produced brine volumes. OK ✓

A: Unichem will comply with this request, submitting to the EID the information listed above on a quarterly basis.

Q: Please report on the possible soil contamination investigation on a quarterly basis until resolved. OK

A: Unichem will continue its investigation of the soil in the form of analysis within the immediate area of the Carlsbad Brine Station. This investigation will follow the previously submitted Implementation Plan and will be reported to the EID on a quarterly basis.

QUESTIONS AND ANSWERS
(Continuation)

Carlsbad Brine Station

Q: Item 5-208-B-1, Reporting Requirements for In Situ Extraction Wells: OK

A. The discharger shall notify the director within 48 hours of the detection or suspected detection of a leachate excursion, and shall provide subsequent reports as required by the director.

A: Unichem International commits to compliance with the above requirement to notify the director within a 48-hour period in the event of detection or suspected detection of a leachate excursion.

OK

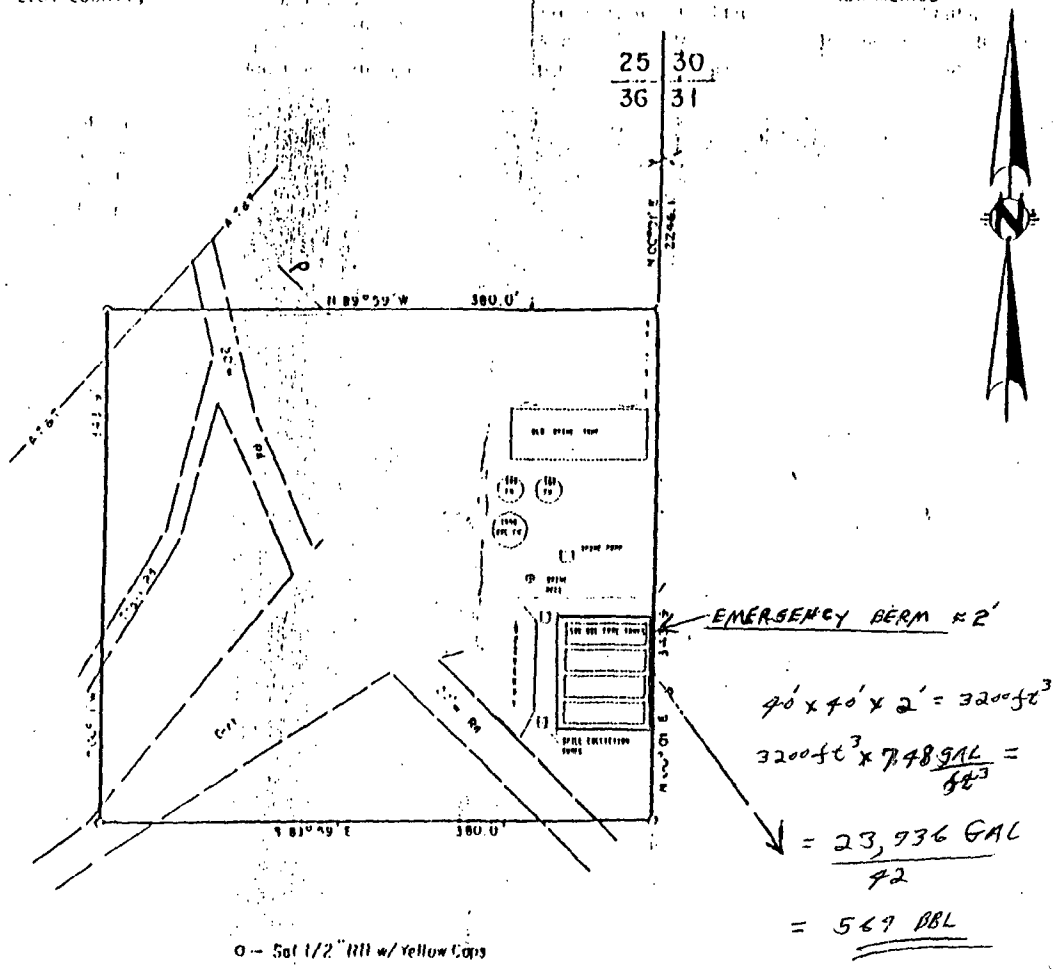
Q: Item 5-101-H-1a, Discharge Plan Signatory Requirements:

1a. For a Corporation: By a principal excecutive officer of at least the level of vice president, or a representative who performs similar policy-making functions for the corporation who has the authority to sign for the corporation...

A: Richard Brakey functions as a Vice President of Unichem International and is authorized to sign for the company in reference to the Discharge Plan Signatory Requirements. Mr. Brakey's signature is contained herein:

Richard Brakey, Vice President
Unichem International Inc.

SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO



O = Set 1/2" RB w/ Yellow Caps

EXHIBIT A - SUBMITTAL #2
EXHIBIT B - PROPOSED PLOT PLAN
REV 9-14-86 LWP
REV 11-17-86 LWP

LEGAL DESCRIPTION:

A TRACT OF LAND CONTAINING 3.00 ACRES, MORE OR LESS, LOCATED IN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 36 BEARS N00°01'E, A DISTANCE OF 2246.1 FEET; THENCE S89°59'W, A DISTANCE OF 380.0 FEET; THENCE S00°01'W, A DISTANCE OF 341.9 FEET; THENCE S89°59'E, A DISTANCE OF 380.0 FEET; THENCE N00°01'E, A DISTANCE OF 341.9 FEET TO THE POINT OF BEGINNING.

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 676 NEW MEXICO JOHN W. WEST

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

JOHN W. WEST, NM PE D L S No 676
TEXAS R P S No 1138
RONALD J. EIDSON, N.M. L.S. No 3239

ROCLAND TRUCKING
A Division of Enfield Internat'l

BOUNDARY AND TOPOGRAPHY SURVEY OF 3.00 ACRE TRACT WITHIN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

JOHN W. WEST ENGINEERING COMPANY
CONSULTING ENGINEERS HOBBS, NEW MEXICO

Scale: 1" = 100'	Drawn By: C. Brown
Date: 1/8/86 Ck.	Sheet 1 of 1 Sheets

EXHIBIT A

PALCO LININGS, INC.

EXHIBIT B

PALCO 30-MIL PVC
POND LINER SPECIFICATIONS

PVC liner shall be compounded from first quality virgin materials with no regrind or reprocessed materials added. The liner compound shall be specifically designed for pond liner application.

MINIMUM MATERIAL PROPERTIES

PROPERTY	TEST METHOD	TEST VALUE
Gauge (*nominal*)		30 mils
Thickness, minimum	ASTM D1593 Par. 9.1.3	28.5 mils
Specific Gravity (minimum)	ASTM D792 MTD A-1	1.24 to 1.30
Minimum Tensile Properties (each direction)	ASTM D882	
1. Breaking Factor (lbs/inch width)	MTD A or B (one inch wide)	69 lbs/in width (2300 psi)
2. Elongation at Break (percent)	MTD A or B	300%
3. Modulus (Force) @ 100% Elongation (lbs/inch width)	MTD A or B	27 lbs/in width (900 psi)
Tear Resistance (minimum average pounds)	ASTM D1004 Die C	8 lbs
Low Temperature Impact (50% pass)	ASTM D1790	-20°F
Dimensional Stability (each direction, percent change maximum)	ASTM D1204 212°F 15 Min.	±5%
Water Extraction (max % wt loss)	ASTM D3083 (as modified by NSF)	0.35%
Volatile Loss (max % wt loss)	ASTM D1203 MTD A	0.7%

(continued on reverse)

7571 Santa Rita Circle • P.O. Box 919 • Stanton, CA 90680 • (714) 898-0867 • Telex 6971329
2500 B Hamilton Blvd. • P.O. Box 526 • South Plainfield, NJ 07080 • (201) 753-6262

EXHIBIT B

30-MIL PVC
POND LINER SPECIFICATIONS

MINIMUM MATERIAL PROPERTIES

Resistance to Soil Burial (percent change maximum in original value)	ASTM D3083 (as modified by NSF)	
1. Breaking Factor		5%
2. Elongation at Break		20%
3. Modulus @ 100% Elongation		20%
Hydrostatic Resistance (pounds/sq. in. minimum)	ASTM D751 MTD A	82 psi

FACTORY SEAM REQUIREMENTS

Factory Seaming Method		Dielectric Fusion Weld
Bonded Seam Strength (factory seam breaking factor, ppi width)	ASTM D3083 (as modified by NSF)	55.2 lbs/in width
Peel Adhesion (pounds/inch minimum)	ASTM D413 (as modified by NSF)	10 lbs/in or F.T.B.*
Resistance to Soil Burial (percent change maximum in original value)	ASTM D3083 (as modified by NSF)	
Bonded Seam Strength		-20%
Peel Adhesion		-20%

*F.T.B. - Film Tearing Bond

PALCO 30-MIL PVC POND LINER
(Actual Material Sample)

09/86

CARLSBAD BRINE STATION

Discharge Plan
Permit Submittal

October 6, 1986

UNICHEM
INTERNATIONAL

UNICHEM
INTERNATIONAL

CARLSBAD BRINE STATION
DISCHARGE PLAN PERMIT SUBMITTAL

Presented to:
STATE OF NEW MEXICO
Environmental Improvement Division

UNICHEM INTERNATIONAL INC.
P.O. BOX 1499
HOBBS, NEW MEXICO 88240

Prepared by:
Wayne Price, Staff Engineer

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

October 6, 1986

VIA CERTIFIED MAIL

Mr. Kevin Lambert, Hydrologist
Ground Water & Hazardous Waste Bureau
State of New Mexico
Environmental Improvement Division
P.O. Box 968, Runnels Building
Santa Fe, NM 87504-0968

Dear Kevin,

SUBJECT: Carlsbad Brine Station
Discharge Plan Permit Submittal

In response to the questions and comments generated in your letter of June 2, 1986, signed by Peter Maggiore, enclosed is a detailed list of answers and attachments for the above-referenced facility. Per your recommendation at the time of my visit to your office on August 8, I am also enclosing an Implementation Plan.

Please accept this submittal as the first requirement in obtaining a complete Part 3 and 5 EID Discharge Plan permit. If you have any questions about the enclosed information, please do not hesitate to contact me.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price

Wayne Price
Staff Engineer

WP:mms

Enclosure

TABLE OF CONTENTS

I. IMPLEMENTATION PLAN

Carlsbad Brine Station

I. ACTION: Remove static head from existing brine tank.

STATUS: Task completed 9/15/86. Please refer to photograph in Exhibit A-1.

II. ACTION: Remove salt from pit and re-cycle.

STATUS: In progress at present time.

III. ACTION: Drill test hole within 15' of existing brine tank wall and take core soil sample at 50'.

STATUS: To be completed by 01/01/87. Note: Arrangements have been made with Abbott Brothers Drilling to complete this work at half-price if we can coordinate this effort with other drilling activity in the Carlsbad area this fall.

IV. ACTION: Complete soil core analysis 30 days following removal of soil sample.

STATUS: To be submitted to EID by 02/01/87.

V. ACTION: Install new frac tanks in place of existing brine tank.

STATUS: Complete. Please refer to photograph in Exhibit A-2.

VI. ACTION: Install two new spill collection systems by December 1, 1986.

STATUS: In progress at present time.

II. PART 3 REQUIREMENTS

The following information is submitted for review: Part 3-106.C, Questions and Answers.

PART 3-106.C.: APPLICATION FOR DISCHARGE PLAN APPROVAL

1. Quantity, quality, and flow characteristics of the discharge:

   Quantity: 92,000 gallons per day

   Quality: Approximately 300,000 mg/liter

   Flow Characteristics: Brine will be produced by injecting fresh water through an injection well into a dry salt formation. Discharge will flow into four 500-bbl frac tanks (refer to Exhibit B). The brine storage tanks and well are located in Section 36, Township 22S, Range 26E (information presently on file with the Environmental Improvement Division).

2. Location of the discharge and of any bodies of water, watercourses, and ground water discharge sites within one mile of the outside perimeter of the discharge site, and existing or proposed wells to be used for monitoring:

   The information requested is currently on file with the Environmental Improvement Division.

3. Depth to and TDS concentration of the ground water most likely to be affected by the discharge:

   In a radius area of 0.25 mile, there is no known or recorded ground water. The ground water most likely to be affected per the EID is at a depth of approximately 150' with a total dissolved solids of 2,500 mg/liter.

4. Flooding potential of the site:

   The site is an existing site with no known flood zones. Drainage of the area generally flows to the east.

5. Location and design of site(s) and method(s) to be available for sampling, and for measurement or calculation of flow:

   Please review the accompanying drawings which depict the plan layout, the piping schematic, and the proposed spill collection systems, as shown in Exhibit B.

6. Depth to and lithological description of rock at base of alluvium below the discharge site if such information is available:

   Please refer to Exhibit C which provides the formation record.

PART 3-106.C. (Continued...)

7. Any additional information that may be necessary to demonstrate that approval of the discharge plan will not result in concentrations in excess of the standards of Section 3-103 or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use. Detailed information on site geologic and hydrologic conditions may be required for a technical evaluation of the applicant's proposed discharge plan:

   There are no toxic pollutants in our operation and this does not present any hazard at the present, not will it present a future hazard. The proposed discharge plan will not result in concentrations in excess of the standards of Section 3-103. Continual monitoring of the brine operation will be performed by on-site personnel.

8. Additional detailed information required for a technical evaluation of effluent disposal wells or in situ extraction wells as provided in Part 5 of these regulations:

   Please refer to the responses provided for Part 5 of this submittal.

III. PART 5 REQUIREMENTS

The following information is submitted for review: Part 5--Questions and Answers.

PART 5: WATER QUALITY CONTROL/UNDERGROUND INJECTION CONTROL

1. A tabulation pursuant to Section 5-210.B.2 of all wells within a 0.25 mile radius which penetrate the injection zone:

   An extensive study has been made of records from the OCD (Oil Conservation Division), and records from the State Engineer's office have also been reviewed. There are no known oil, gas, or water wells in the area of review. Therefore, the above would not appear to apply to Unichem's present submittal. Please refer to the accompanying maps shown in Exhibit D.

2. A corrective action program for any wells within a 0.25 mile radius of Unichem's well which penetrate the injection zone and are not properly completed or plugged (5-210.B.4):

   Again, following thorough review of available records from the Oil Conservation Division and the State Engineer's office, there are no known oil, gas, or water wells in the area of review. Please refer to the accompanying maps shown in Exhibit D.

3. A map or information showing ground water quality is required (5-210.B.5):

   There is no known ground water of record in the area of review. Again, please refer to Exhibit D.

4. Average and maximum injection pressures need to be supplied (5-210.B.9, 5-210.C.3):

   The average operating injection pressure is 90 psig at the well head. The maximum operating injection pressure is 180 psig at the well head.

5. You will need to have a mechanical integrity (MI) test performed on the well, and submit the results of this test to the EID (5-207.C):

   The required mechanical integrity test has been completed and was submitted to the EID on August 8, 1986.

6. Monitoring parameters and frequence of monitoring need to be specified. The EID would suggest analyzing water quality quarterly, with the pressure, flow rate, flow volume, and annulus pressure being monitored quarterly and reported annually (5-207.C):

   The water quality of injection water (fresh water from the City

PART 5 (Continued...)

6. of Carlsbad) is monitored on a continual basis by the City of Carlsbad and records are available. Unichem will submit these records on an annual basis as required by the EID. Manufactured brine water will be monitored in accordance with the recommendations of the EID and reported on an annual basis.

IV. EXHIBITS

EXHIBIT A

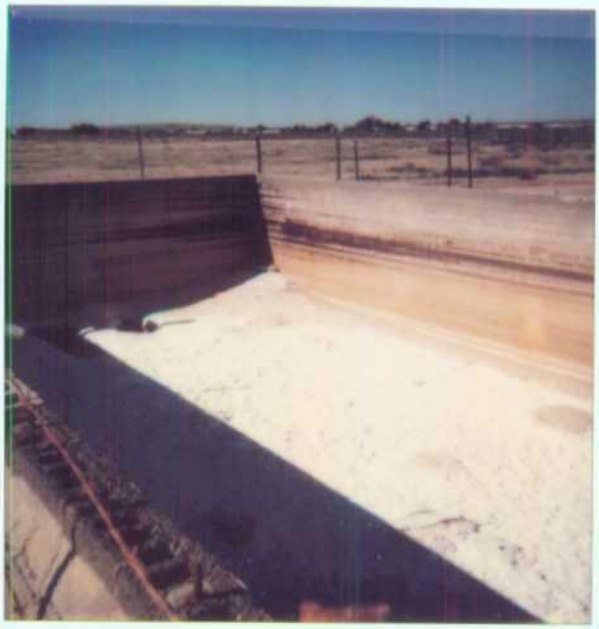


Exhibit A-1: Existing Brine Tank

Exhibit A-2: New Frac Tanks

THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

DUE TO

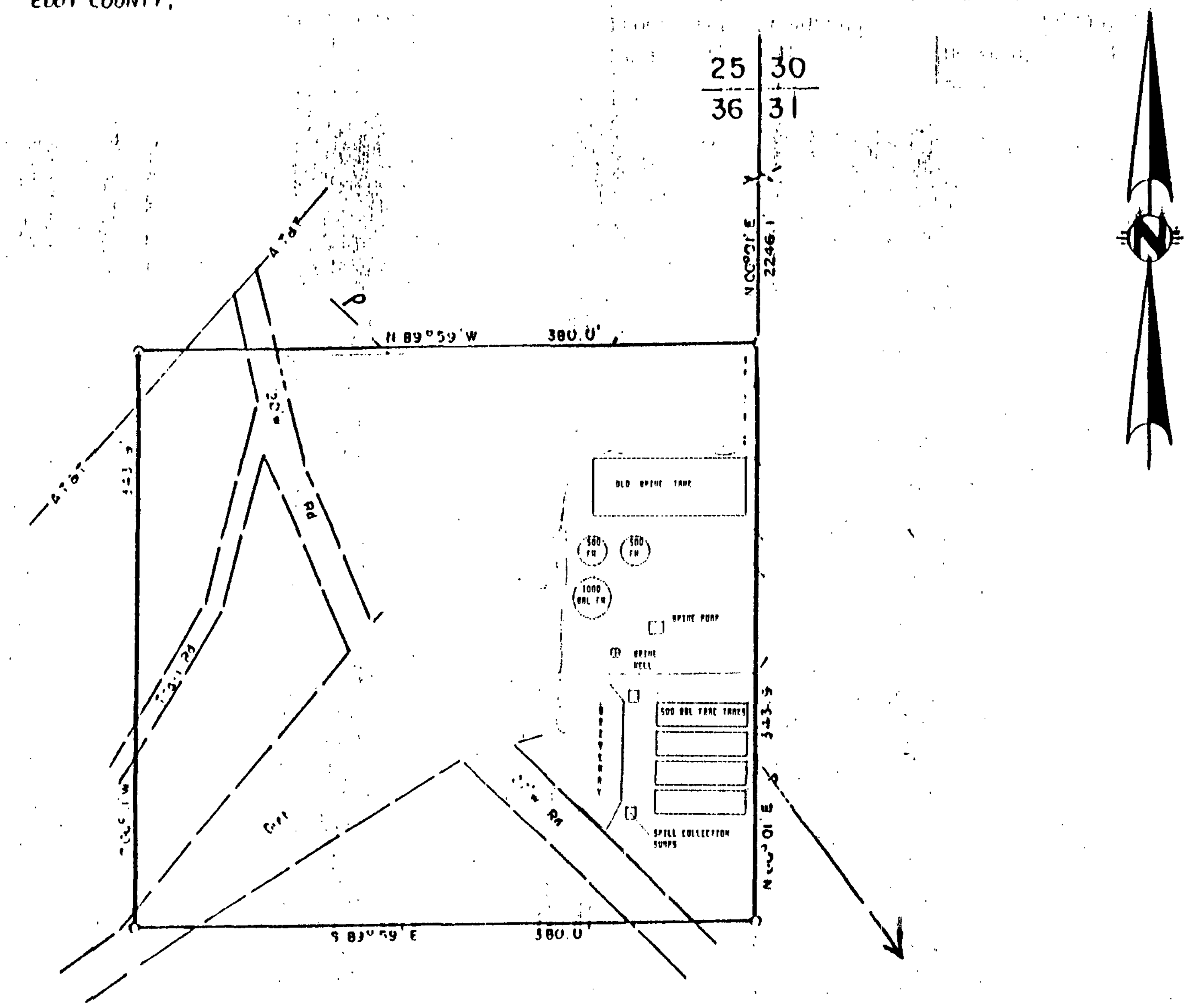
THE CONDITION OF

THE ORIGINAL

SECTION 36,
EDDY COUNTY,

TOWNSHIP 22 SOUTH,

RANGE 26 EAST, N.M.P.M.
NEW MEXICO



o – Set 1/2" RB w/ Yellow Caps

EXHIBIT B - PROPOSED PLOT PLAN
REV 9-14-86 LWP

LEGAL DESCRIPTION:

A TRACT OF LAND CONTAINING 3.00 ACRES, MORE OR LESS, LOCATED IN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 36 BEARS N00°01'E, A DISTANCE OF 2246.1 FEET; THENCE N89°59'W, A DISTANCE OF 380.0 FEET; THENCE S00°01'W, A DISTANCE OF 343.9 FEET; THENCE S89°59'E, A DISTANCE OF 380.0 FEET; THENCE N00°01'E, A DISTANCE OF 343.9 FEET TO THE POINT OF BEGINNING.

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 676 NEW MEXICO JOHN W. WEST

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

John W. West

JOHN W. WEST, NM PE & LS No 676
TEXAS RPS No 1138
RONALD J. EIDSON, NM LS No 3239

ROWLAND TRUCKING
A Division of Unichem International

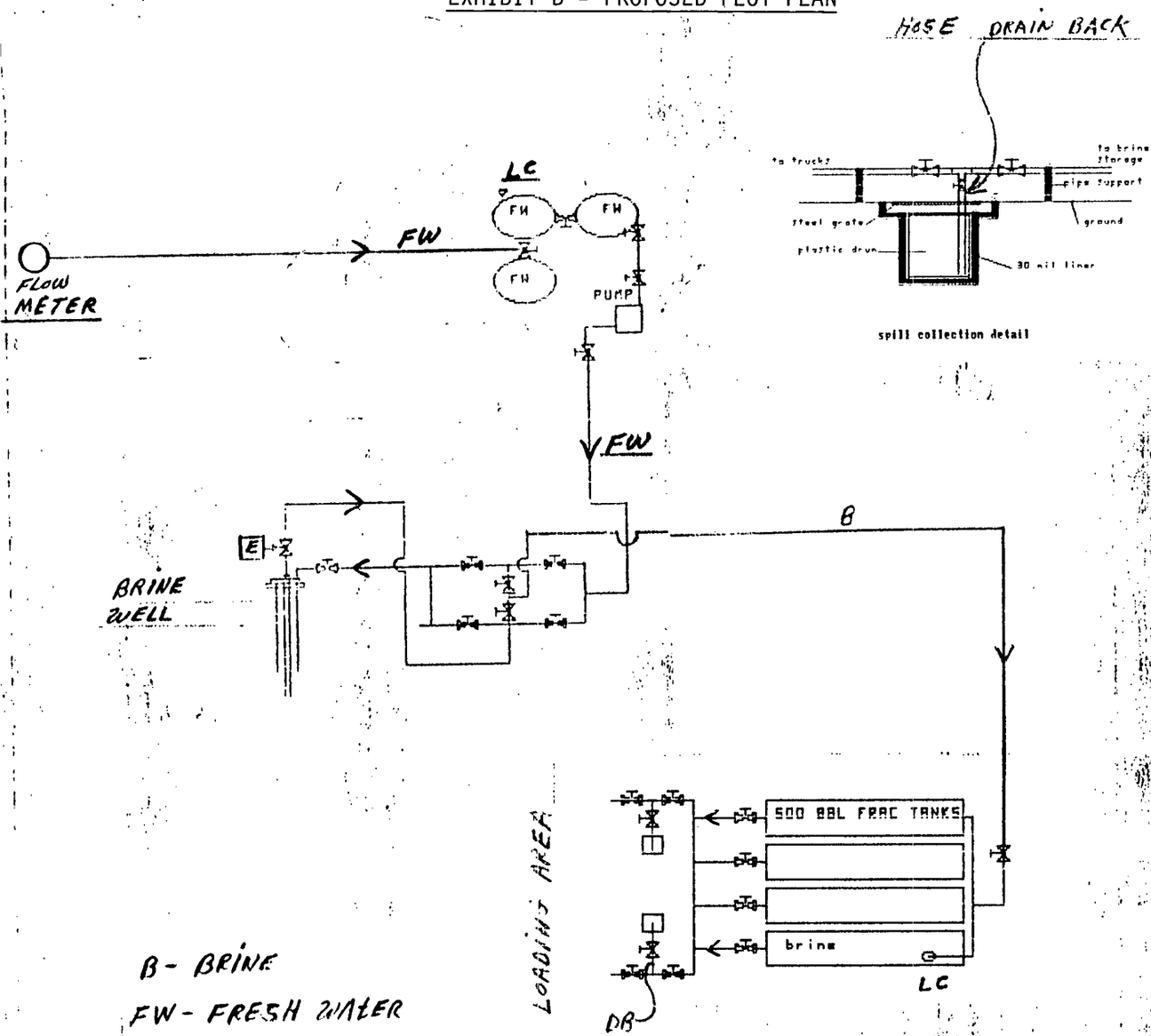
BOUNDARY AND TOPOGRAPHY SURVEY OF 3.00 ACRE TRACT WITHIN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

JOHN W. WEST ENGINEERING COMPANY
CONSULTING ENGINEERS HOBBS, NEW MEXICO

Scale: 1" = 100'
Drawn By: C. Brown

EXHIBIT B

EXHIBIT B - PROPOSED PLOT PLAN



B - BRINE

FW - FRESH WATER

LC - LEVEL CONTROL

DB - DRAIN BACK

CARLSBAD BRINE ST
PROPOSED FLOW SCHEMATIC

DRW BY - LWP - 3-13-86

REV 3-19-86

EXHIBIT C - SITE FORMATION RECORD

NO. OF COPIES RECEIVED		
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SANTA FE	/	
FILE	/	
U.S.G.S.	/	
LAND OFFICE	/	
OPERATOR		

RECEIVED
NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG
SEP 13 1976
O. C. C.
ARTESIA, OFFICE

Form C-105
Revised 1-1-65

5a. Indicate Type of Lease: State [X] Fee [ ]
5. State Oil & Gas Lease No.: Salt Mining #M19264

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [ ] OTHER Brine Well
b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER

7. Unit Agreement Name:
8. Farm or Lease Name: City of Carlsbad
9. Well No.: 1
2. Name of Operator: Truckers Water Company /
3. Address of Operator: P. O. Box 1429, Hobbs, New Mexico 88240
10. Field and Pool, or Wildcat: Wildcat
4. Location of Well: UNIT LETTER H LOCATED 2410 FEET FROM THE North LINE AND 330 FEET FROM
East LINE OF SEC. 36 TWP. 22S RGE. 26E NMPM
12. County: Eddy

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
7-13-76	8-29-76	8-31-76		

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
930			→		X

24. Producing Interval(s), of this completion — Top, Bottom, Name
Salt - 710' Salt 930'

25. Was Directional Survey Made: No

26. Type Electric and Other Logs Run: None

27. Was Well Cored: No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8	32#	350'	13"	225 sx Class C	
5 1/2	14#	710'	7 7/8	150 sx Class C	

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2 3/8	926'	No

31. Perforation Record (Interval, size and number)
Open hole 710 - 930

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

POSTED - OFF
ID-2-1-76
TD-1-1-76

PRODUCTION

First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)
8-31	Circulating fresh water	Circulating

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Gas—Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Oil Gravity — API (Corr.)

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED _____ TITLE Vice-President DATE 9-9-76

EXHIBIT C

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico			
T. Anhy	240	T. Canyon		T. Ojo Alamo		T. Penn. "B"	
T. Salt	715	T. Strawn		T. Kirtland-Fruitland		T. Penn. "C"	
B. Salt		T. Atoka		T. Pictured Cliffs		T. Penn. "D"	
T. Yates		T. Miss		T. Cliff House		T. Leadville	
T. 7 Rivers		T. Devonian		T. Menefee		T. Madison	
T. Queen		T. Silurian		T. Point Lookout		T. Elbert	
T. Grayburg		T. Montoya		T. Mancos		T. McCracken	
T. San Andres		T. Simpson		T. Gallup		T. Ignacio Qtzte	
T. Glorieta		T. McKee		Base Greenhorn		T. Granite	
T. Paddock		T. Ellenburger		T. Dakota		T.	
T. Blinebry		T. Gr. Wash		T. Morrison		T.	
T. Tubb		T. Granite		T. Todilto		T.	
T. Drinkard		T. Delaware Sand		T. Entrada		T.	
T. Abo		T. Bone Springs		T. Wingate		T.	
T. Wolfcamp		T.		T. Chinle		T.	
T. Penn.		T.		T. Permian		T.	
T. Cisco (Bough C)		T.		T. Penn. "A"		T.	

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	210	210	Red bed and shale				
210	240	30	Anhydrite and shale				
240	715	475	Anhydrite				
715	TD	21[illegible]	Salt				

NO. OF COPIES RECEIVED	3	
DISTRIBUTION		
SANTA FE	1	
FILE	1	
U.S.G.S.		
LAND OFFICE		
OPERATOR	1	

RECEIVED
SEP 13 1976
O. C. C.
ARTESIA, OFFICE

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: Salt Mining #M19264

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL [ ] GAS WELL [ ] OTHER- Brine Well

7. Unit Agreement Name:

2. Name of Operator: Truckers Water Company, Inc.

8. Farm or Lease Name: City of Carlsbad

3. Address of Operator: P. O. Box 1499, Lobbs, New Mexico 88240

9. Well No.: 1

4. Location of Well: UNIT LETTER H, 2420 FEET FROM THE North LINE AND 330 FEET FROM THE East LINE, SECTION 36 TOWNSHIP 20S RANGE 26E NMPM.

10. Field and Pool, or Wildcat: Wildcat

15. Elevation (Show whether DF, RT, GR, etc.)

12. County: Eddy

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTERING CASING [ ]
TEMPORARILY ABANDON [ ]		COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [ ]
PULL OR ALTER CASING [ ]	CHANGE PLANS [ ]	CASING TEST AND CEMENT JOB [X]	
OTHER [ ]		OTHER [ ]	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Drilled well to 930 feet total depth.
Ran 5 1/2" 14# casing to 710'
Spotted 10# mud in rat-hole from 710' to 930'
cemented casing with 150 sx class "C" cement with 4% Calcium Chloride added
Circulated an extimate of 15 sx.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

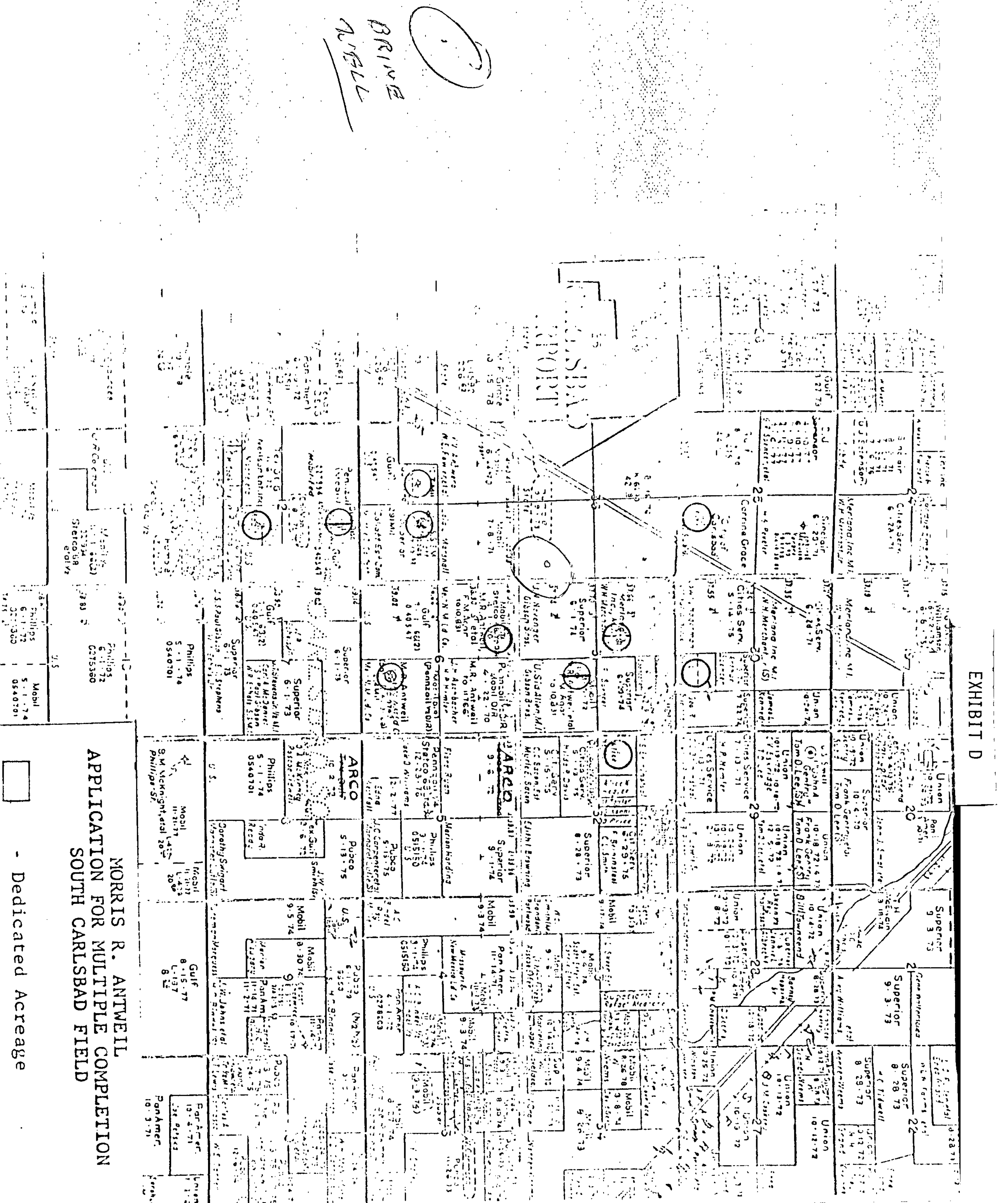
SIGNED [signature] TITLE Vice-President DATE 9-9-76

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE SEP 30 1976

CONDITIONS OF APPROVAL, IF ANY:

5-210.B.4

EXHIBIT D - AREA WELL MAPS/INFORMATION



Form C-102
Supersedes C-128
Effective 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Truckers Water Company ~~Division of United Chemical Corp. of N.M.~~	Brine Well	1

Unit Letter	Section	Township	Range	County
H	36	22 South	26 East	Eddy

Actual Footage Location of Well: 2420 feet from the North line and 330 feet from the East line

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

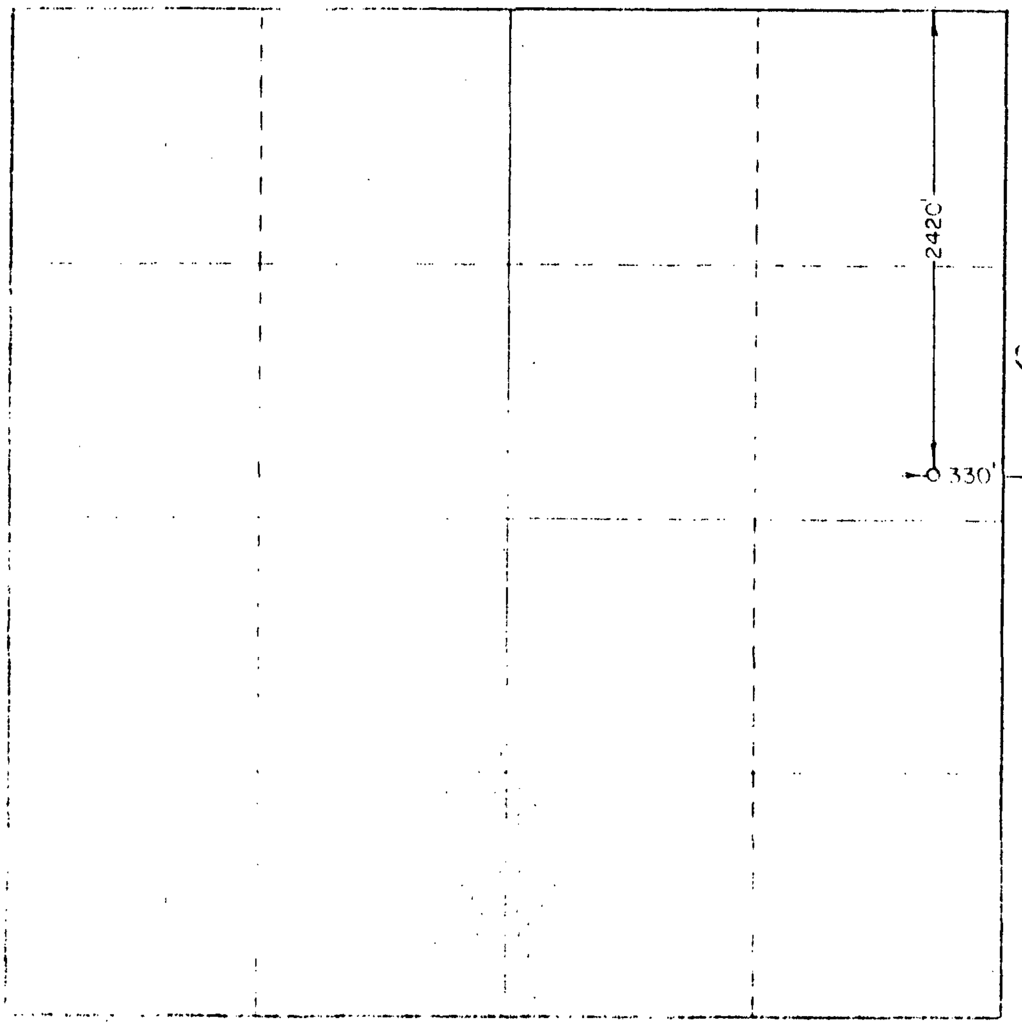
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

[ ] Yes [ ] No If answer is "yes," type of consolidation ______

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) ______

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



330 660 90 1320 1650 1980 2310 2640 2000 1500 1000 500

CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

R. J. Bixby
Vice Pres.
Truckers Water Co.
5-20-76

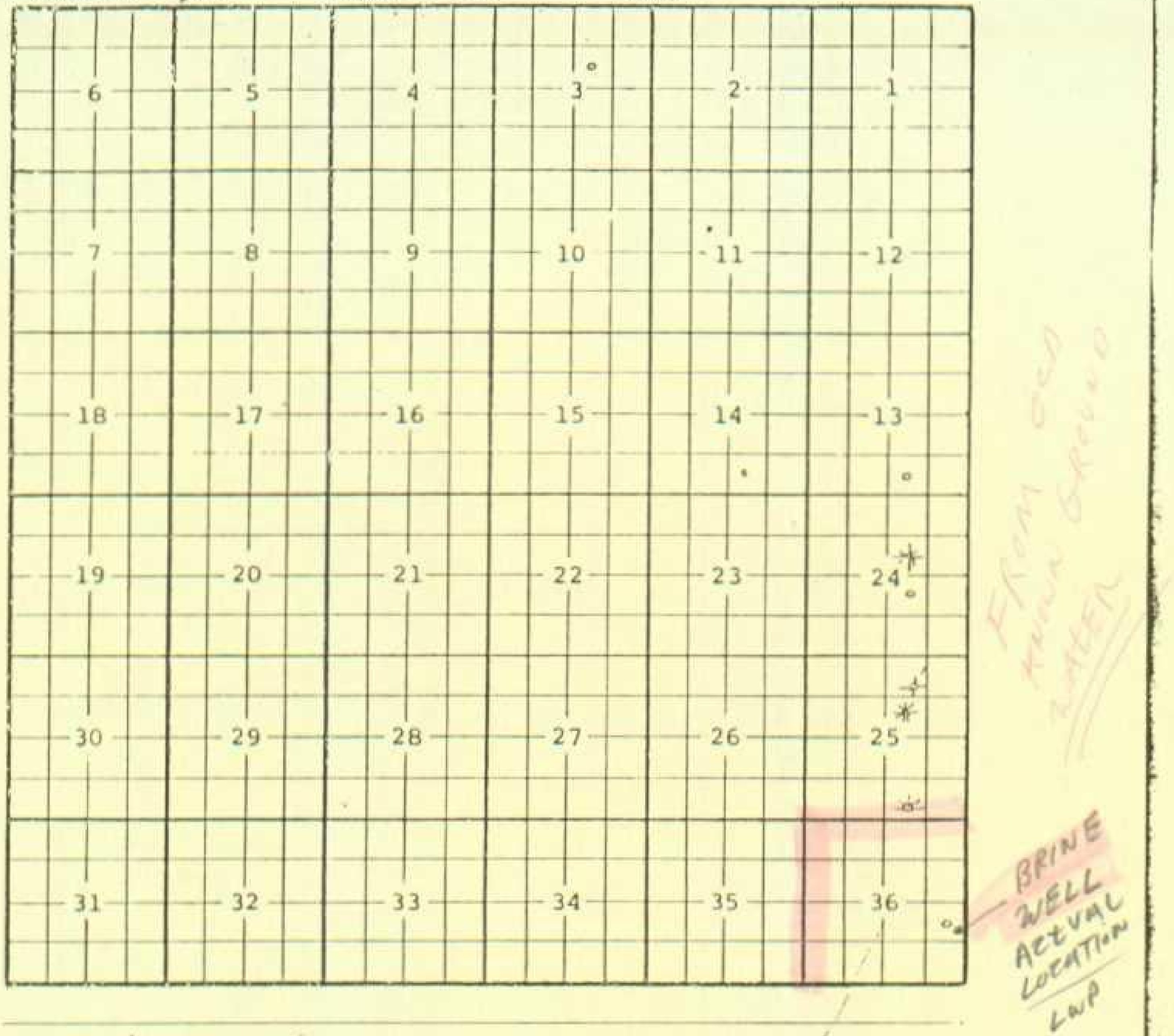
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

December 18, 1975

John W. West
676

COUNTY POOL

TOWNSHIP 22 RANGE 26 NMPM



Sec. 3 - [illegible] 146 - 288 - [illegible] 345 500 - [illegible] 535 + 307

[illegible] 14 [illegible] 1378 - 2249 - 1500 [illegible] 730 - 935 sx [illegible]

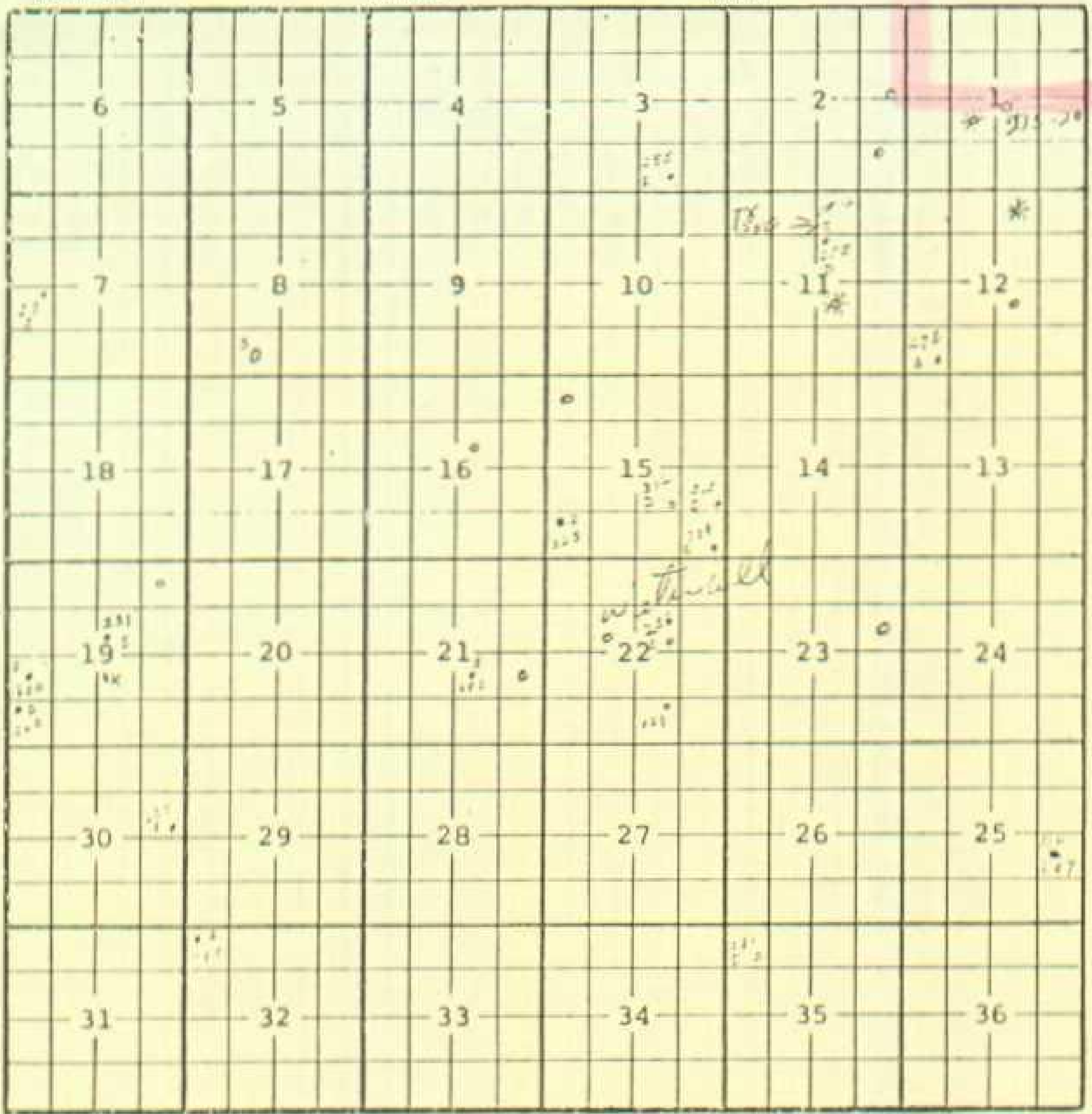
Sec. 24 - [illegible] 950 - [illegible] surface

Sec. 25 TX 1115 [illegible] 1958 [illegible] 170 - 235 + 425 - 475 ?

C-25 - [illegible] 115 85

COUNTY 53 POOL 26

TOWNSHIP RANGE NMPM



Sec. 1 ... 215-20 Sec. 15 ... 350-300 11¾ ... 8⅝ ... 5½ ... 11850

" 1-K- 16" 350-450 9⅝ - 7100-1650 5½ liner 5700-12074-1350

Sec. 8 - 1 ... 285 ... 280-85

Sec. 11 - 16" - 350-300 11¾ - 1900 - 750 8⅝ - 8690 - 1500

Sec. 12 - 12¾ - 354 - 350 9⅝ - 5270 - 600 Top 2750 7" - 11850 - 675

Sec. 15 HFW C 325 - (250-27)

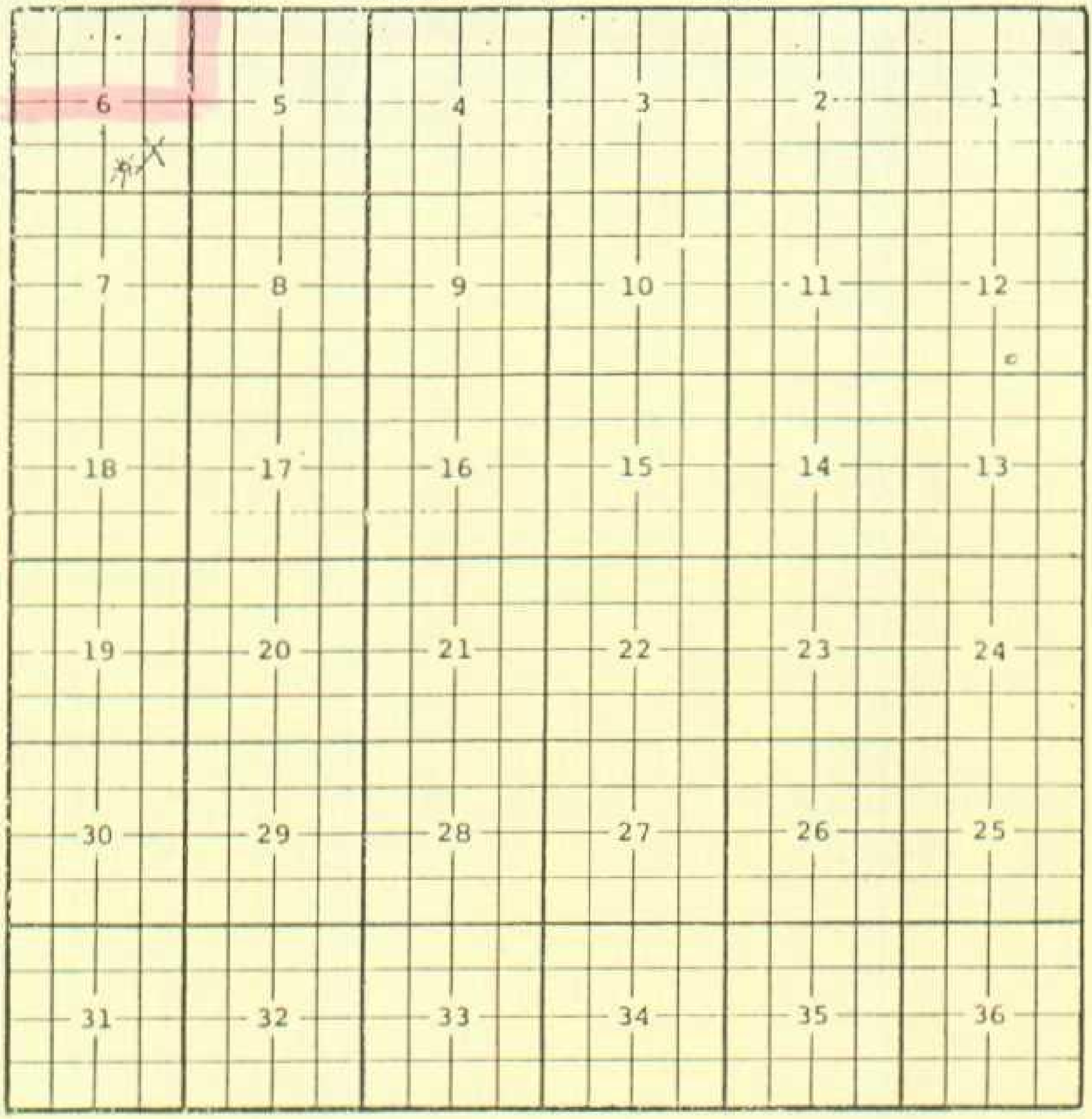
Sec. 21 ... 215-25

Sec. 22 ... 300

23 FW 275

COUNTY POOL

TOWNSHIP 23 RANGE 27 NMPM

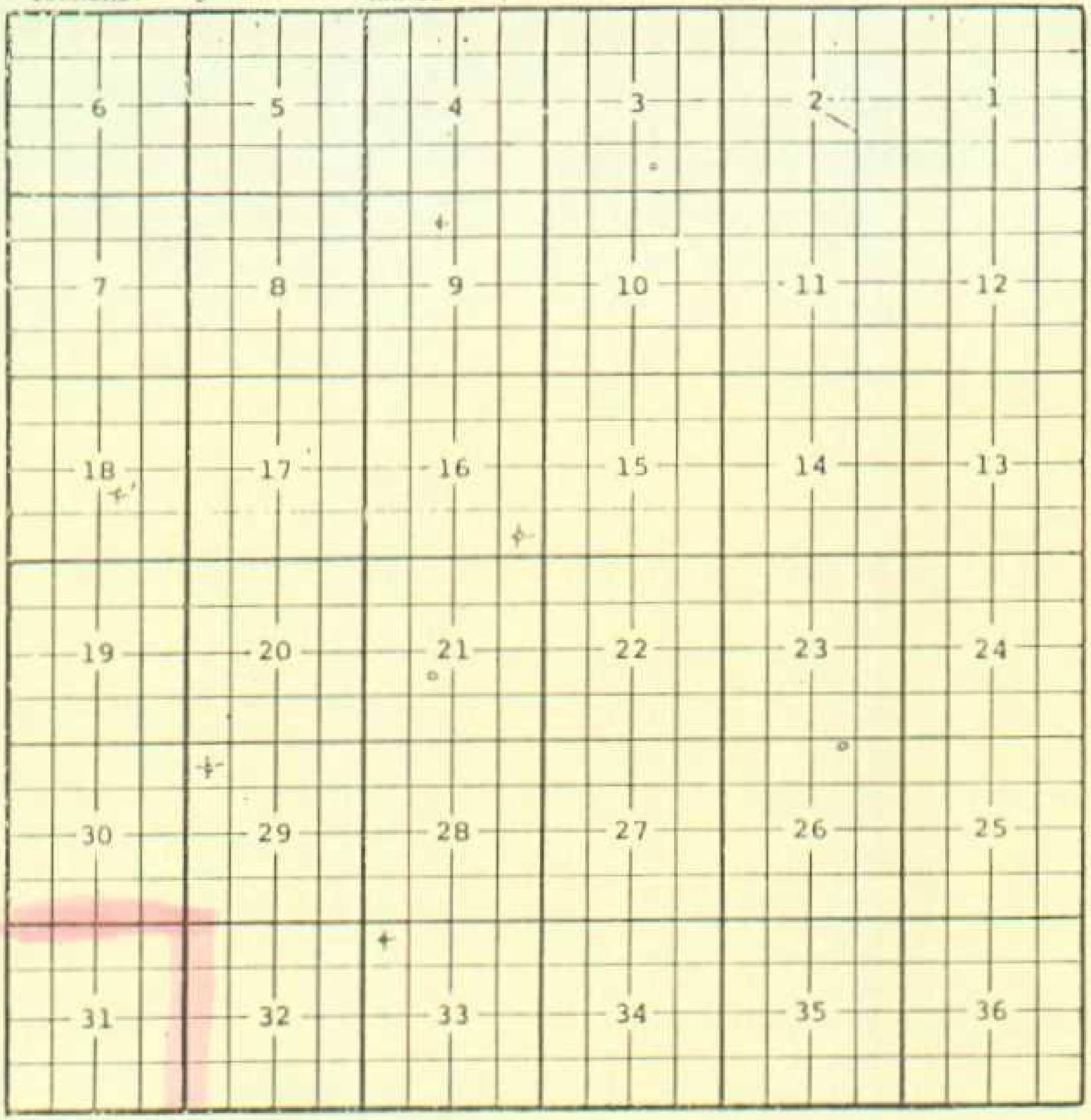


6-6-13 3/8-273-350 8 5/8-2292-750 4 1/2-11565-[illegible]

[illegible] 12 [illegible] 290 [illegible]

COUNTY POOL

TOWNSHIP 22 RANGE 27 NMPM



water
29
180'

Sec. 3 [illegible] 520-[illegible] TD 3236.

Sec. 9 water 65' [illegible] 345

Sec. 16 water 37-45'.
Sec. 18 water 60 HFL 127

Sec. [illegible] water 32-[illegible] (404-406 [illegible])
Sec 29 water 20-250 [illegible] 360 [illegible]
Sec. 31 water 335' ([illegible])