22853399

DATE IN 8/14/00	SUSPENSE 8/29/00	ENGINEER MA	LOGGED [redacted]	TYPE SWD

ABOVE THIS LINE FOR DIVISION USE ONLY

786

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling

☐ NSL ☐ NSP ☐ DD ☐ SD

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE** - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: ~~Statement~~ must be completed by an individual with supervisory capacity.

TERRI STATHEM	[signature]	PRODUCTION ANALYST	8/10/00
Print or Type Name	Signature	Title	Date

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 SOUTH PACHECO
SANTA FE, NEW MEXICO 87505

FORM C-108
Revised 4-1-98

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance XX Disposal _____ Storage
Application qualifies for administrative approval? x Yes ____ No

II. OPERATOR: Concho Resources Inc.

ADDRESS: 110 W. Louisiana Ste 410; Midland, Tx 79701

CONTACT PARTY: Terri Stathem / Jim Blount PHONE: 915-683-7443

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes XX No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: James Blount TITLE: Sr. Operations Engineer

SIGNATURE: James Blount DATE: 8-10-00

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 1

weeks.

Beginning with the issue dated

August 4 2000

and ending with the issue dated

August 4 2000

Kathi Bearden

Publisher

Sworn and subscribed to before me this 4th day of

August 2000

Jodi Henson

Notary Public.

My Commission expires
October 18, 2000
(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE
August 4, 2000
NOTICE OF INTENT TO INJECT PRODUCED WATER

CONCHO RESOURCES INC.
110 W. LOUISIANA, SUITE 410
MIDLAND, TX 79701

Contact Person: Terri Stathem, Production Analyst
(915) 683-7443

The purpose is to inject produced water into the Delaware Cherry Canyon formation at an interval of 5925-6042' in Concho Resources Inc's Diamondtail '24A' Federal No. 1 well.

The well is located 1980' FNL & 330' FWL, Sec. 24, T-23S, R-32E, Lea County, New Mexico.

The maximum injection rate expected is 2500 BWPD.

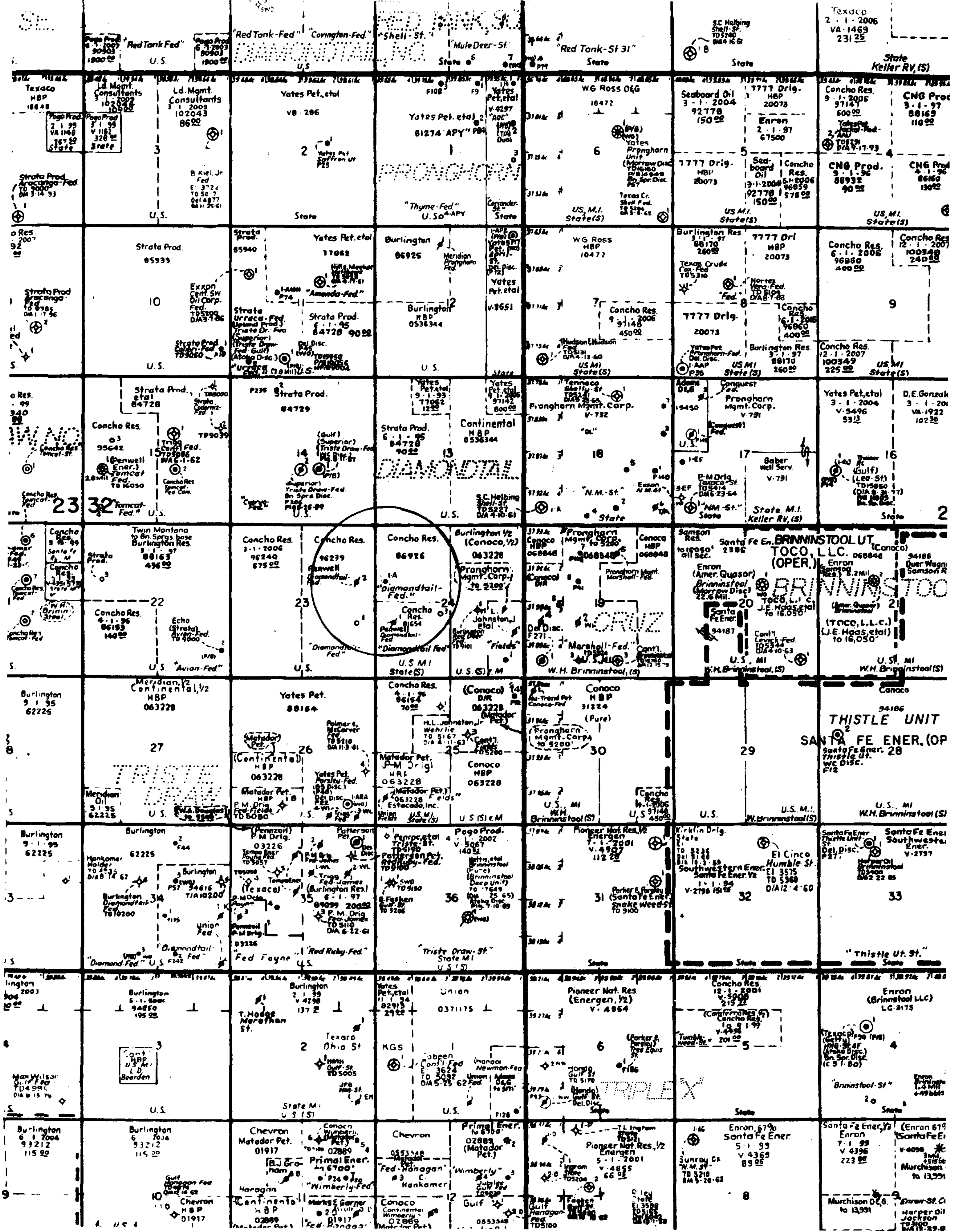
The maximum injection pressure expected 1500 psi.

All interest parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco St., Santa Fe, New Mexico 87505 within 15 days.
#17556

ILLEGIBLE

01104894000 01542561

Concho Resources Inc.
110 W. Louisiana, Suite 410
MIDLAND, TX 79701



Red Tank Fed
Red Tank-Fed
Covington-Fed.
Shell-St.
Mule Deer-St.
Red Tank-St 31
Texaco
Keller RV,(S)
Ld. Mgmt. Consultants
Yates Pet.,etal
W.G Ross O&G
Seaboard Oil
7777 Drlg.
Concho Res.
CNG Prod
PRONGHORN
Thyme-Fed.
Strata Prod.
Burlington
Exxon
Amanda-Fed.
Texas Crude
Continental
Pronghorn Mgmt. Corp.
DIAMONDTAIL
Tomcat-Fed.
Baber Well Serv.
D.E.Gonzales
Twin Montana
Diamondtail-Fed.
BRINNINSTOOL UT.
TOCO, L.L.C. (OPER.)
Santa Fe En.
CRUZ
Marshall-Fed.
W.H. Brinninstool,(S)
Echo (Strata) Avion-Fed.
Meridian,1/2 Continental,1/2
Yates Pet.
Matador Pet.
Conoco
THISTLE UNIT
SANTA FE ENER.(OP
TRISTE DRAW
Pioneer Nat. Res.,1/2
Kirklin Drlg.
El Cinco Humble St.
Southwestern Ener.
Snake Weed-St.
Diamond-Fed.
Red Ruby-Fed.
Triste Draw-St.
Thistle Ut. St.
Pioneer Nat. Res. (Energen, 1/2)
Enron (Brinnstool LLC)
T. Hodge Marathon St.
Texaco Ohio St
Union
TRIPLE X
Brinninstool-St.
Chevron
Matador Pet.
Primal Ener.
Wimberly
Fed-Hanagan
Hankamer
Gulf
Enron, 67%
Santa Fe Ener.
Murchison O&G

Wells in Area of Review
Application for Authorization to Inject
Concho Resources, Inc.

SWD-760

Diamondtail 23 Fed #2
Location: 1980' FNL & 660' FEL — Sec 23, T23S, R32E
Type: SWD — Date Drilled: 12/96
Total Depth: 10,200'

Casing Record:

Size	Depth	Sacks Cement
13 3/8"	579'	500
8 5/8"	4880'	2285
5 ½"	10,200'	1430

Completion:

2/97	Perforated 10,776-96'.
2/97	Frac'ed well w/153,000# 20/40 sand. Put well on pump.
5/97	Perforated 8560-74'. Frac'ed w/40,000# 20/40
11/99	Perforated 7111-17'. Acidized w/1000 gal 7½ % NEFE. Swab all water.
11/99	Perforated 5954-6064'. Acidized w/4000 gal 7½ % NEFE.
12/99	Began injecting.

Diamondtail 24 Fed #1
Location: 1980' FSL & 660' FWL — Sec 24, T23S, R32E
Type: Oil — Date Drilled: 4/96
Total Depth: 10,300'

Casing Record:

Size	Depth	Sacks Cement	
13 3/8"	618'	650	CIRC.
8 5/8"	4785'	1750	"
5 ½"	10,300'	2040	"

Completion:

4/96	Perforated 10,029-82'.
5/96	Frac'ed well w/66,000# 20/40 sand. Put well on pump.
6/96	Perforated 8994-9030'. Frac'ed w/88,500# 20/40 sand. Put on pump.
8/96	Perforated 8247-53'. Frac'ed w/16,000# 16/30 sand. Put on pump.
8/96	Squeezed perfs @ 8247-53' w/75 sx cmt
8/96	Reopened 8994-10,082' & put on pump.

Application for Authorization to Inject
Concho Resources, Inc.

VII. Proposed Operation

1. Proposed average daily rate is 1500 BWPD with a maximum of 2500 BWPD @ an injection rate of 3000 BPD.

2. The SWD will be a closed system.

3. The average injection pressure is expected to be 1000 psi with a max of 1500 psi.

4. The injection water will be from the Delaware Brushy Canyon. An analysis is attached.

VIII. Geologic Data

Injection zone is a sandstone in the Delaware Cherry Canyon from 5925-6042'. The top of the Cherry Canyon is 5825'.
The lowest freshwater source in the area is the Ogalala at 600'.

IX. A 3000 gal acid break down is the only stimulation anticipated.

X. Well logs have been previously filed.

XI. A chemical analysis is attached from a water well located in the NE/NE of Sec 21.

XII. I have examined available geologic and engineering data and find no evidence of open faults or hydrologic connection between the proposed Delaware injection interval and any underground sources of drinking water.

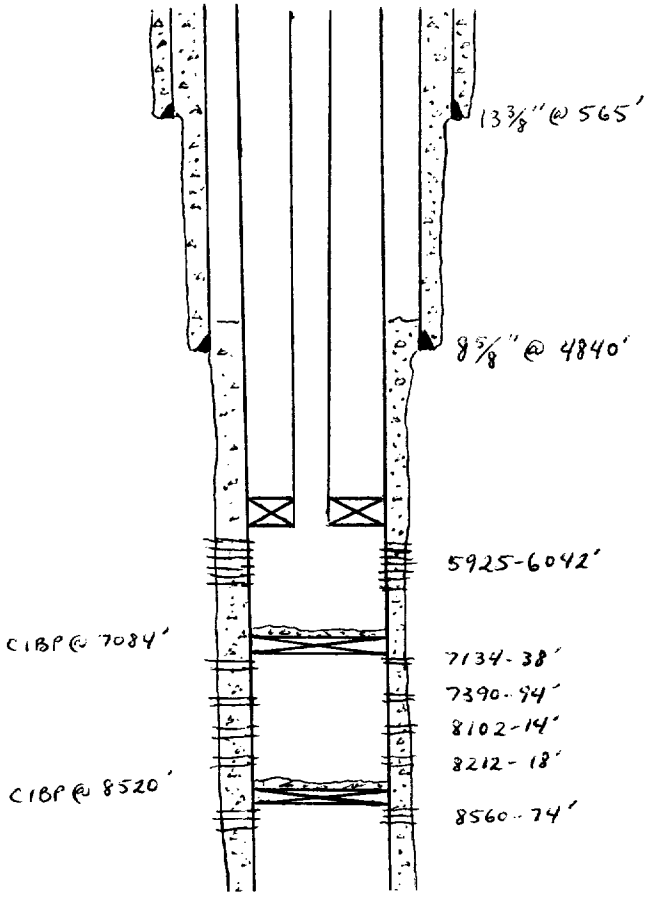
James Blount Sr. Operations Engineer

XIII. Attached are the published notice in the Hobbs News-Sun and Notice of Receipt from offset operators.

INJECTION WELL DATA SHEET

OPERATOR	LEASE			
Concho Resources	Diamondtail '24A' Federal			
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
#1	1980' FNL & 330' FWL	24	23S	32E

Schematic



Tabular Data

Surface Casing

Size 13 3/8 " Cemented with 550 sx.

TOC surface feet determined by circulation

Hole size 17 1/2"

Intermediate Casing

Size 8 5/8 " Cemented with 1820 sx.

TOC surface feet determined by circulation

Hole size 12 ¼ "

Long string

Size 5 ½ " Cemented with 880 sx.

TOC 4060 feet determined by CBL

Hole size 7 7/8 "

Total depth 11,300'

Injection interval

5925 feet to 6042 feet
(perforated or open-hole, indicate which)

CONCHO RESOURCES INC.

Suite 410
110 W. Louisiana
Midland, Texas 79701

(915) 683-7443
FAX 683-7441

August 10, 2000

Strata Production Company
700 Petroleum Building
P O Box 1030
Roswell, NM 88202-1030

Gentlemen:

Diamondtail '24' Federal A No. 1
Sec. 24, T-23S, R-32E, Lea County, NM

Concho Resources Inc., as operator of the Diamondtail '24' Federal A lease in Lea County, New Mexico, has requested administrative approval from the New Mexico Oil Conservation Division to convert this well to salt water disposal. Strata Production Company, being an operator of a lease adjacent to the above lease, is required to receive a notice of our intentions. A copy of the request is enclosed for your records.

Should you object to this request, please file all objections or requests for hearing with the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, NM 87505, within 15 days of receiving this letter.

Should you have any questions, please call Jim Blount or myself at (915) 683-7443.

Sincerely,

Terri Stathem
Production Analyst

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 19959
SAMPLE RECEIVED 1-11-99
RESULTS REPORTED 1-13-99

TO: Mr. Bill Pierce
600 N. Marienfeld, Ste. 1100
Midland, TX 79701

COMPANY Penwell Energy Inc. LEASE Tomcat Federal "21" Com. #1

FIELD OR POOL Sand Dunes, East (Morrow)

SECTION 21 BLOCK ____ SURVEY T-23-S&R-32E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Recovered water - taken from Tomcat Federal "21" Com. #1

NO. 2

NO. 3

NO. 4

REMARKS: Lower Brushy Canyon - 8,418'-8,424' - Sample submitted by Schlumberger

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F	1.1652			
pH When Sampled				
pH When Received	5.61			
Bicarbonate as HCO_3	22			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	46,000			
Calcium as Ca	15,600			
Magnesium as Mg	1,701			
Sodium and/or Potassium	76,637			
Sulfate as SO_4	338			
Chloride as Cl	150,520			
Iron as Fe	31.8			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	244,818			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.051			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks In comparing the above with our records in the area, we find this water has ratios of salts similar to what would be expected from Delaware. However, the levels of the salts are somewhat lower than our nearest record of Brushy Canyon, which is some 10 miles to the east.

Form No. 3

By Waylan C. Martin, M.A.

Miller Chemicals, Inc.

WATER ANALYSIS REPORT

SAMPLE

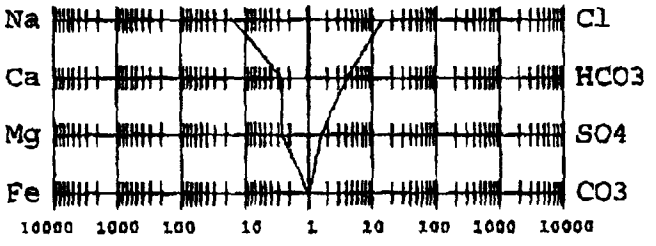
Oil Co. : **Concho Resources**
Lease : **Brininstool**
Well No.: **Water Well**
Lab No. : **F:\ANALYSES\Nov1299.001**

Sample Loc: :
Date Analyzed: **12-November-1999**
Date Sampled : **27-October-1999**

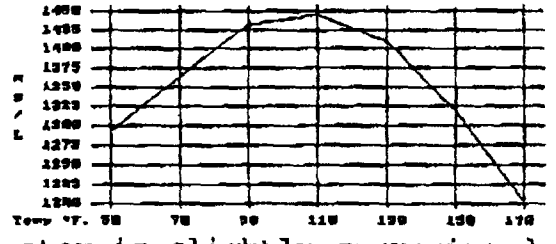
ANALYSIS

1.	pH			8.130	
2.	Specific Gravity 60/60 F.			1.003	
3.	$CaCO_3$ Saturation Index		@ 80 F.	+0.587	
			@ 140 F.	+1.287	
	Dissolved Gasses			**MG/L**	**EQ. WT.** ***MEQ/L**
4.	Hydrogen Sulfide			Not Present	
5.	Carbon Dioxide			Not Determined	
6.	Dissolved Oxygen			Not Determined	
	Cations				
7.	Calcium	(Ca^{++})		50	/ 20.1 = 2.49
8.	Magnesium	(Mg^{++})		30	/ 12.2 = 2.46
9.	Sodium	(Na^{+})	(Calculated)	338	/ 23.0 = 14.70
10.	Barium	(Ba^{++})		Below 10	
	Anions				
11.	Hydroxyl	(OH^{-})		0	/ 17.0 = 0.00
12.	Carbonate	($CO_3^{=}$)		0	/ 30.0 = 0.00
13.	Bicarbonate	(HCO_3^{-})		244	/ 61.1 = 3.99
14.	Sulfate	($SO_4^{=}$)		75	/ 48.8 = 1.54
15.	Chloride	(Cl^{-})		500	/ 35.5 = 14.08
16.	Total Dissolved Solids			1,237	
17.	Total Iron (Fe)			3	/ 18.2 = 0.14
18.	Total Hardness As $CaCO_3$			250	
19.	Resistivity @ 75 F. (Calculated)			4.882 /cm.	

LOGARITHMIC WATER PATTERN
***meq/L.**



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT. X	*meq/L =	mg/L.
$Ca(HCO_3)_2$	81.04	2.49	202
$CaSO_4$	68.07	0.00	0
$CaCl_2$	55.50	0.00	0
$Mg(HCO_3)_2$	73.17	1.51	110
$MgSO_4$	60.19	0.95	57
$MgCL_2$	47.62	0.00	0
$NaHCO_3$	84.00	0.00	0
$NaSO_4$	71.03	0.58	41
NaCl	58.46	14.08	823

***Milli Equivalents per Liter**

This water is slightly corrosive due to the pH observed on analysis.
The corrosivity is increased by the content of mineral salts in solution.