

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage
Application qualifies for administrative approval? ☒ Yes ☐ No
- II. OPERATOR: Echo Production, Inc.
ADDRESS: PO Box 1210, Graham, TX 76450
CONTACT PARTY: Tom Golden / Echo Production, Inc. PHONE: (940) 549-3292
- 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 ☒ 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.).
- JAN 16 2002
- *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: Tom Golden TITLE: Operations Manager
SIGNATURE: Tom Golden DATE: 8/28/01
- * 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: _____

INJECTION WELL DATA SHEET

OPERATOR: Echo Production, Inc.

WELL NAME & NUMBER: Avion Federal #3

WELL LOCATION: 1880' FSL & 1880' FEL

UNIT LETTER J SECTION 22 TOWNSHIP 23S RANGE 32E

FOOTAGE LOCATION

WELLBORE SCHEMATIC

See Attached

WELL CONSTRUCTION DATASurface CasingHole Size: 17 1/2" Casing Size: 13 3/8" ft³Cemented with: 600 sx or ft³

Top of Cement: surface Method Determined: visual

Intermediate CasingHole Size: 11" Casing Size: 8 5/8" ft³Cemented with: 1475 sx or ft³

Top of Cement: surface Method Determined: visual

Production CasingHole Size: 7 7/8" Casing Size: 4 1/2" ft³Cemented with: 500 sx or ft³

Top of Cement: 6834' Method Determined: CBL

Total Depth: 8950'

Injection Interval

Perf 7086' feet to 7608'

(Perforated or Open Hole; indicate which)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0135
Expires July 31, 1996

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other Instructions on reverse side

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other SI		5. Lease Serial No. NM 88163
2. Name of Operator Echo Production, Inc.		6. If Indian, Allottee or Tribe Name
3a. Address PO Box 1210, Graham, TX 76450	3b. Phone No. (include area code) (940) 549-3292	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1880' FSL & 1880' FEL Sec 22 T 23S R 32E		8. Well Name and No. Avion Federal #3
		9. API Well No. 30-025-34817
		10. Field and Pool, or Exploratory Area Diamond Tail Delaware
		11. County or Parish, State Lea County, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input checked="" type="checkbox"/> Water Disposal	

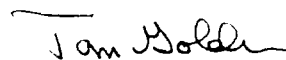
13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Present Well Data: 13 3/8" csg @ 615' cmt to surf, 8 5/8" csg @ 4838' cmt to surface, 4 1/2" csg @ 8828' cmt to 6834'. Perf 7086-98', 7122-24', 7412-20', 7534-41', 7578-86' & 7604-08'. Perf 7948-62' & 8074-80' shut off w/BP @ 7709'. Perf 8490-8508', 8534-48' & 8558-70' shut off w/BP @ 8152'.

Purpose to: Run 2 3/8" PC tubing w/ packer to +7040' for disposal of produced water.

Copy of Form C-108 and supporting data is enclosed.

BLM Bond File No.: NM 2692

14. I hereby certify that the foregoing is true and correct	
Name (Printed/Typed) Tom Golden	Title Operations Manager
Signature 	Date 8/28/01

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

WELL COMPLETION SKETCHES

WELL

AVION FEDERAL #3

FIELD

DIAMOND TAIL DELAWARE

DATE

8/15/01



PRESENT COMPLETION



SUGGESTED COMPLETION

PERMANENT WELL BORE DATA

1880' FSL & 1880' FEL SEC 22-23S-32E

LEA COUNTY, NM

ELEV. GL 3668' KB 3683'

13 3/8" 48# J @ 615'

CMT'D. W/ 600 SK. - CIRC.

8 5/8" 32# J @ 4838'

CMT'D. W/ 1475 SK. - CIRC.

T.O.C. 6834' - CBL

4 1/2" 11.6# J & N @ 8828'

CMT'D W/ 500 SK - TOC 6834'

CMT'D TO SURF

CMT'D TO SURFACE

DATA ON THIS COMPLETION

PERF 7086-98, 7122-24, 7412-20,

7534-41, 7578-86 & 7604-08

B.P. @ 7709'

PERF 7948-62 & 8074-80

B.P. @ 8152'

PERF. 8490-8508'

PERF. 8534-48' & 8558-70'

PBTD 8766'

WELL COMPLETION SKETCHES

WELL

AVION FEDERAL #3

FIELD

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☐ PRESENT COMPLETION☒ SUGGESTED COMPLETION

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DATA ON THIS COMPLETION

1880' FSL & 1880' FEL SEC 22-23S-32E

LEA COUNTY, NM

ELEV. GL 3668' KB 3683'

13 3/8" 48# J @ 615'

CMT'D. W/ 600 SX. - CIRC.

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CMT'D. W/ 1475 SX. - CIRC.

T.O.C. 6834' - CBL

4 1/2" 11.6# J & N @ 8828'

CMT'D. W/ 500 SX. - T.O.C. 6834'

CMT'D TO SURF

CMT'D TO SURFACE

2 3/8" PC T&G @ ± 7040'

PERF 7086-98, 7122-24, 7112-20,

7534-41, 7578-86 & 7604-08'

B.P. @ 7709'

PERF 7948-62 & 8074-80'

B.P. @ 8152'

PERF. 8490-8508'

PERF. 8534-48 & 8558-70'

PBTD 8766'

Application For Authorization To Inject

Echo Production, Inc.
Avion Federal #3
1880' FSL & 1800' FEL, Sec 22-23S-32E
Lea County, New Mexico

VI. "Data on all wells within area of review".

Avion Federal #2 (only well in one-half mile radius)

Operator – Echo Production, Inc.

Location – 990' FSL & 330' FEL, Sec 22-23S-32E

Drilled by Strata Production Company 2/27/97 and P&A'd

13 3/8" 48# casing at 620' with 800 sacks – circulated to surface

8 5/8" 24 & 32# casing at 4870' with 1656 sacks – circulated to surface.

TD 9000'. Cement plugs 8970-8770', 6100-5900', 4920-4820', 670'-580' and 30' to surface.

Re-entered by Echo Production, Inc. 2/3/99

Drilled out plugs to 8410'

4 1/2" 11.6# casing @ 8410' with 290 sacks. TOC 6900'

Perf Delaware 8195-8208' – oil well.

VII. "Data on Proposed Operation"

1. Proposed average disposal rate 1200 BPD – maximum rate 1500 BPD
2. Closed system
3. Proposed average injection pressure initially 500# - maximum 1150#
4. Injection fluid is Lower Delaware sand, which is compatible with Upper Delaware water sand receiving fluid.
5. Chemical analysis of Delaware sand is attached. Do not have any analysis of disposal zone since it is not productive, but it would be similar.

VIII. "Geologic Data"

Proposed injection zone is the Delaware Sand – Brushy Canyon member. This member extends from 7000' to the top of the Delaware Sand – Middle Brushy Canyon member encountered at 7842'. There are no fresh water aquifers underlying the injection interval. Fresh water is found in the shallow Permian sands to a depth of 575'. These zones are isolated by the surface casing (615'), intermediate casing (4838') and the production casing.

IX. "Stimulation Program"

Perforations had been stimulated previously.

X. "Logging and Test Data"

Well was completed in Delaware sand for an IP of 11 BOPD and 113 BWPD on 3/25/00. Well was SI in Feb. 2001 due to marginal production. Well logs were previously submitted.

XI. "Fresh Water Analysis"

Only known fresh water well within one mile is located 600' FEL and 1200' FNL of Sec 21-23S-32E. A sample was taken from the tank at this well on 5/24/01 and the analysis is attached.

XII. All geologic and engineering data show no evidence of any type of connection between the disposal zone and the shallow aquifers. Several disposal wells already exist in comparable Delaware sands to the one being proposed.

XIII. "Proof of Notice"

There is only one additional leasehold operator within one-half mile of the proposed well. A copy of notification is enclosed. All land within one-half mile is Federal. A copy of the application and a Sundry Notice (enclosed) was mailed to the BLM.

A copy of the ad placed in the Hobbs News – Sun is also enclosed.

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 18 _____ 2001
and ending with the issue dated

August 18 _____ 2001

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 20th _____ day of

August _____ 2001

Jodi Benson

Notary Public.

My Commission expires
October 18, 2004
(Seal)

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

LEGAL NOTICE
August 18, 2001
NOTICE OF APPLICATION FOR
AUTHORIZATION TO INJECT
Echo Production, Inc., PO Box 1210, Graham, Texas 76450,
has applied to the New Mexico Oil Conservation Division for
authorization to dispose of produced water into the Avion Fed-
eral #3 located 1880' FSL and 1880' FEL Sec 22-23S-32E,
Lea County. The proposed disposal zone is the Delaware
Sand-Brushy Canyon member with proposed perforations
from 7086-98', 7122-24', 7412-20', 7534-41', 7578-86' & 7604-
08'. Maximum injection rate will be 1500 BPD and maximum
injection pressure 1150#. The contact person for Echo Produc-
tion, Inc. is Tom Golden at (940)549-3292. Requests for hear-
ing from affected parties or objections to any aspect of the ap-
plication must be filed with Oil Conservation Division, 1220
South St. Francis Dr., Santa Fe, New Mexico 87505, within 15
days of publication.
#18361

02105309000

67502205

Echo Production, Inc.
P.O. Box 1210
GRAHAM, TX 76450

Echo Production, Inc.

PO Box 1210 Graham, Texas 76450 (940) 549-3292 Fax: (940) 549-5162

August 22, 2001


Devon Energy Corporation
20 N. Broadway
Suite 1500
Oklahoma City, OK 73102-8260

Re: Avion Federal #3
1880' FSL & 1880' FEL
Sec 22 T23S R32E
Lea County, New Mexico

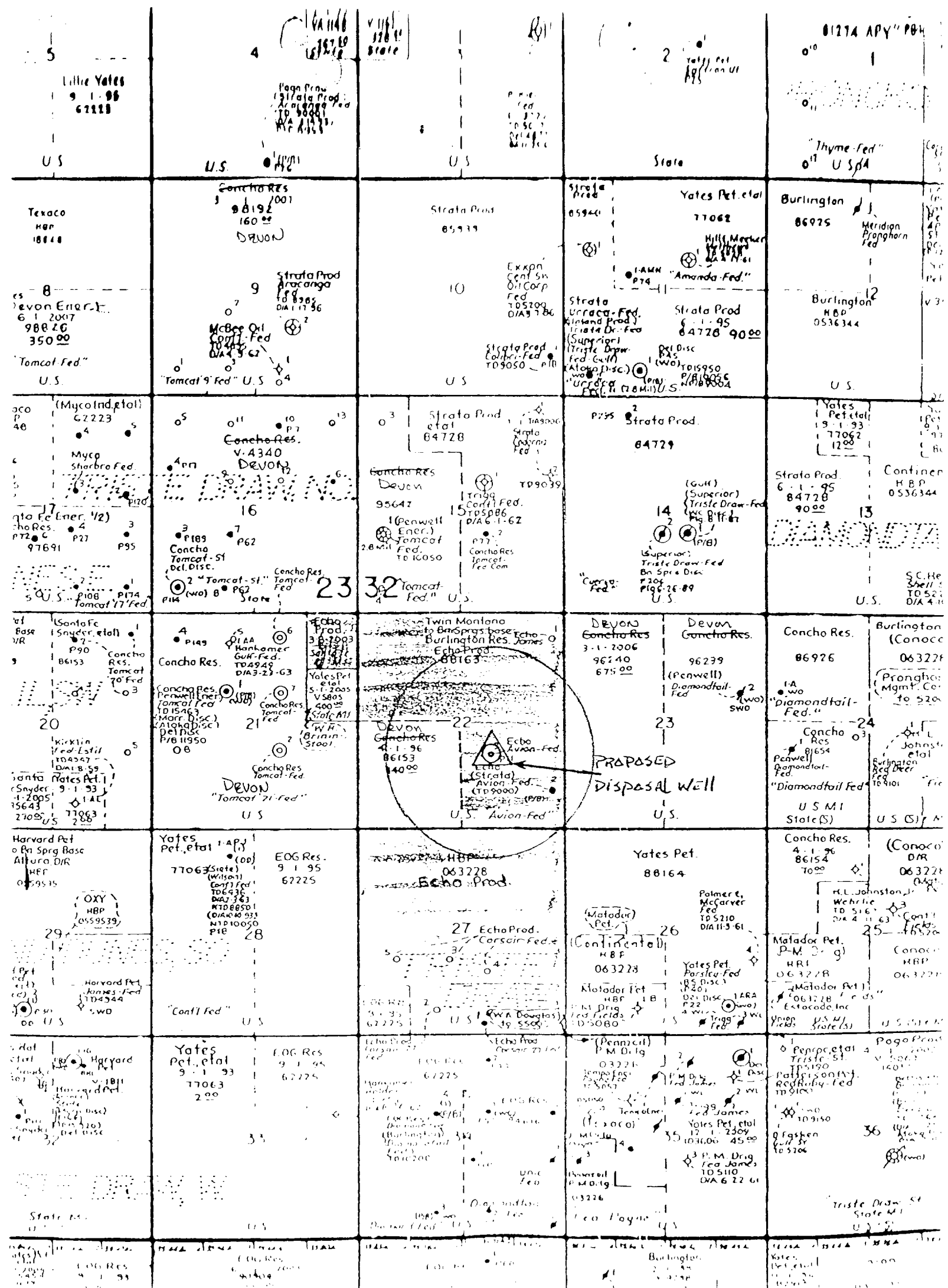
Enclosed is a copy of the Oil Conservation Division Form C-108 "Application For Authorization To Inject" which Echo Production, Inc. has recently filed. This will serve as written notification of Echo Production's intention of converting the Avion Federal #3 to a saltwater disposal well.

If you have any questions, please contact me at the above address or phone number.

Sincerely,



Tom Golden
Operations Manager





Champion
Technologies, Inc.

Committed To Improvement

Water Analysis Report

Customer: ECHO PRODUCTION INC.

7/3/00

Address:

City:

State:

Zip:

Attention: TOM GOLDEN

Date Sampled: 6/30/00

CC1: TOM HONEWELL

Date Received: 6/30/00

CC2:

SALESMAN NAME: PRESTON SOUTHARD

LEASE: AVION

SAMPLE POINT: AVION # *Battery*

WELL: AVION #1

REMARKS:

Delaware Sand

CHLORIDE:	168500
SULFATE:	207
BICARBONATE:	68
CALCIUM:	22536
MAGNESIUM:	4325
IRON:	49
BARIUM:	0
STRONTIUM:	
MEASURED pH:	5.6
TEMPERATURE:	85
DISSOLVED CO ₂ :	130
MOLE PERCENT CO ₂ IN GAS:	0.50
DISSOLVED H ₂ S:	
PRESSURE (PSIA):	100
SODIUM (PPM):	75365

TOTAL DISSOLVED SOLIDS: 271050

IONIC STRENGTH: 4.76

CALCITE (CaCO ₃) SI:	-0.14	CALCITE PTB:	N/A
GYPSUM (CaSO ₄) SI:	-0.46	GYPSUM PTB:	N/A
BARITE (BaSO ₄) SI:	N/A	BARITE PTB:	N/A
CELESTITE (SrSO ₄) SI:	N/A	CELESTITE PTB:	N/A

SI calculations based on Tomson-Oddo

*Julie
Cramer*



Champion
Technologies, Inc.
Committed To Improvement

Water Analysis Report

Customer: ECHO PRODUCTION INC.

5/29/01

Address:

City:

State:

Zip:

Attention: TOM GOLDEN

Date Sampled:

5/29/01

CC1: TOM HONNEWELL

Date Received:

5/29/01

CC2:

SALESMAN NAME: PRESTON SOUTHLARD

LEASE: JAMES

SAMPLE POINT:

WELL: FRESH WATER WELL

REMARKS:

CHLORIDE: 90

SULFATE: 179

BICARBONATE: 35

CALCIUM: 76

MAGNESIUM: 24

IRON: 16

BARIUM: 0

STRONTIUM:

MEASURED pH: 6.9

TEMPERATURE: 75

DISSOLVED CO₂: 75

MOLE PERCENT CO₂ IN GAS: 0.50

DISSOLVED H₂S:

PRESSURE (PSIA): 100

SODIUM (PPM): 25

TOTAL DISSOLVED SOLIDS: 445

IONIC STRENGTH: 0.01

CALCITE (CaCO₃) SI: -2.44

CALCITE PTB: N/A

GYPSUM (CaSO₄) SI: -2.11

GYPSUM PTB: N/A

BARITE (BaSO₄) SI: N/A

BARITE PTB: N/A

CELESTITE (SrSO₄) SI: N/A

CELESTITE PTB: N/A

SI calculations based on Tomson-Oddo

Julio
Correa



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Jennifer A. Salisbury

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

9/5/01

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD X _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Echo Production Inc Avion Federal # 3-J-22-23s-32e
Operator Lease & Well No. Unit S-T-R 3D-025-34817

and my recommendations are as follows:

Per 7686-7608

OK

Yours very truly,

Chris Williams
Supervisor, District 1



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Jennifer A. Salisbury

Cabinet Secretary

7/16/01

Lori Wrotenbery

Director

Oil Conservation Division

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD X _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Echo Production Inc Avion Federal # 3-J-22-235-32e
Operator Lease & Well No. Unit S-T-R 30-025-34817

and my recommendations are as follows:

need to set cement plug from 5790-5650
across perfor @ 5700 Paul 3 Roubt

Yours very truly, -

Chris Williams

Chris Williams

Supervisor, District 1