

EXHIBIT LIST

EXAMINER: *Michael E. Stogner*

CASE NUMBER: *8346*

HEARING DATE: *September 19, 1984*

APPLICANT			OPPOSITION		
No.	Description	Admitted	No.	Description	Admitted

WITNES LIST

Case No. 83416 Date of Hearing September 19, 1984

APPLICANT: BBC, Inc.

OPPOSITION:

No. Qualified Sworn

No. Qualified Sworn

1) Name : \_\_\_\_\_

1) Name : \_\_\_\_\_

Position : \_\_\_\_\_

Position : \_\_\_\_\_

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2) Name : \_\_\_\_\_

Position : \_\_\_\_\_

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3) Name : \_\_\_\_\_

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Position : \_\_\_\_\_

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Saltwater Disposal in the Delaware  
Formation in the perforated interval  
from 3350' to 3396' and into an  
open-hole interval from 3555' to  
3700' in its Federal "A2" Well No. 1  
located in Sec. 29, T-26S, R-30E,  
Eddy Co.

CASE #: 8346

DATE FILED 8/27/84

APPLICANT

Name: BBC, Inc.

1. Representative: Chad Dickerson

2. Position: Representing Attorney

3. Address: 101 E. Macland  
Suite 112  
Hobbs, NM 88240

4. Telephone: 397-2767

5. ATTORNEY: Chad Dickerson

6. Address: P.O. Drawer 239  
Artesia, NM 88211-0239

7. Telephone: 746-3508

OPPOSITION

Name: \_\_\_\_\_

1. Representative: \_\_\_\_\_

2. Position: \_\_\_\_\_

3. Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Telephone: \_\_\_\_\_

5. ATTORNEY: \_\_\_\_\_

6. Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Telephone: \_\_\_\_\_

INTERVENOR (if any) :

or

INTERESTED PARTY (IES):

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING: ,

CASE NO. 8346  
Order No. R-7781

APPLICATION OF BBC, INC. FOR  
SALT WATER DISPOSAL, EDDY COUNTY,  
NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on September 19, 1984, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 18th day of January, 1985, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

- (1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) The applicant, BBC, Inc., proposes to re-enter and be designated the operator of the Amoco Production Company Federal "AZ" Well No. 1, plugged and abandoned October 3, 1983, located 2030 feet from the South line and 660 feet from the East line (Unit I) of Section 29, Township 26 South, Range 30 East, NMPM, Eddy County, New Mexico.
- (3) The applicant proposes to utilize said well to dispose of produced salt water into the Delaware formation, with injection into the perforated interval from approximately 3,350 feet to 3,396 feet and into an open-hole interval from 3,355 feet to 3,700 feet.
- (4) The operator of said proposed Federal "AZ" Salt Water Disposal Well No. 1 should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface via surrounding injection, production, and/or plugged and abandoned wells.

(5) The following described previously plugged and abandoned wells are located within one-half mile of said Federal "AZ" Well No. 1:

<u>WELL NAME AND NO.</u>	<u>FOOTAGE LOCATION</u>	<u>P &amp; A DATE</u>
Texas Pacific Coal & Oil Company U.S.A. (New Mexico) "A" Well No. 1	1980' FSL & 660' FEL (Unit P)	12/21/60
Fred Pool Drilling Company Federal "TP" Well No. 1	660' FN & FEL (Unit A)	12/5/63

both in Section 29, Township 26 South, Range 30 East, NMPM, Eddy County, New Mexico.

(6) Prior to commencement of injection into said Federal "AZ" Well No. 1, the operator should demonstrate that the wells described in Finding Paragraph No. (5) above have either been re-plugged or have been previously plugged and abandoned in such a manner as to ensure that they do not provide an avenue of escape for fluid from the proposed injection zone and in accordance with a program that is satisfactory to the supervisor of the Division's district office at Artesia.

(7) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(8) The injection should be accomplished through 4 1/2-inch plastic lined tubing installed in a packer set at approximately 3300 feet; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(9) The injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 670 psi.

(10) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Delaware formation.

(11) The operator should notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(12) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(13) Approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, BBC, Inc., is hereby authorized to utilize its Federal "AZ" Well No. 1, located 2080 feet from the South line and 660 feet from the East line (Unit I ) of Section 29, Township 26 South, Range 30 East, NMPM, Eddy County, New Mexico, to dispose of produced salt water into the Delaware formation, injection to be accomplished through 4 1/2-inch tubing installed in a packer set at approximately 3300 feet, with injection into the perforated interval from approximately 3,350 feet to 3,396 feet and into an open-hole interval from 3,555 feet to 3,700 feet;

PROVIDED HOWEVER THAT, the tubing shall be internally plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

PROVIDED FURTHER THAT: prior to injection operations, the casing in the subject well shall be pressure-tested throughout the interval from the surface down to the proposed packer setting depth of approximately 3300 feet, said pressure test to be performed by the application of a minimum of 300 psi at the surface, to be held for at least 30 minutes. If a pressure drop of more than 10 percent should occur during such test, the casing shall be considered defective and remedial measures taken before injection operations. The Division's Artesia District Supervisor shall be notified of the date and time the aforesaid test will be conducted in order that he or his representative may witness said test.

PROVIDED FURTHER THAT: injection into the Delaware formation through said Federal "AZ" Well No. 1 shall not commence until the following described wells have either been

re-plugged or are shown to have been adequately plugged and abandoned in a manner that is satisfactory to the supervisor of the Division's district office at Artesia:

<u>WELL NAME AND NO.</u>	<u>FOOTAGE LOCATION</u>
Texas Pacific Coal & Oil Company U.S.A. (New Mexico) "A" Well No. 1	1980' FSL & 660' FEL (Unit P)
Fred Pool Drilling Company Federal "TP" Well No. 1	660' FN & FEL (Unit A)

both in Section 29, Township 26 South, Range 30 East, NMPM, Eddy County, New Mexico.

(2) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 670 psi.

(3) The Director of the Division upon proper application may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Delaware formation.

(4) The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

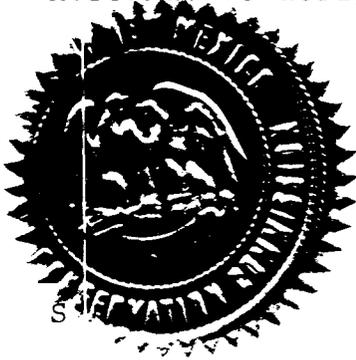
(5) The operator shall immediately notify the supervisor of the Division's Artesia district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Rules and Regulations.

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

-5-  
Case No. 8346  
Order No. R-7781

DONE at Santa Fe, New Mexico, on the day and year  
hereinabove designated.



STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*R. L. Stamets*  
R. L. STAMETS,  
Director



LAW OFFICES

LOSEE, CARSON & DICKERSON, P. A.

300 AMERICAN HOME BUILDING

P. O. DRAWER 239

ARTESIA, NEW MEXICO 88211-0239

AREA CODE 505

746-3508

A. J. LOSEE

JOEL M. CARSON

CHAD DICKERSON

DAVID R. VANDIVER

ELIZABETH LOSEE

REBECCA DICKERSON

January 8, 1985

Mr. Michael E. Stogner, Examiner  
Energy and Minerals Department  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Case No. 8346 MS.

BBC, Inc. - Application for Salt Water Disposal  
Federal "AZ" No. 1 Well  
Township 26 South, Range 30 East, N.M.P.M.  
Section 29: NE/4 SE/4  
Eddy County, New Mexico

Dear Mr. Stogner:

Hearing on the captioned case was held September 19, 1984. However, we have not received the Order of the Division concerning the same.

Please advise if there is some problem in connection with the Division's approval of the captioned application, or if you need anything further concerning this matter, as our client is in need of the Order.

Thank you.

Sincerely yours,

LOSEE, CARSON & DICKERSON, P.A.



Chad Dickerson

CD:pvm

cc: Mr. Robert E. Boling

RECEIVED  
JAN 10 1985  
ENERGY AND MINERALS DEPARTMENT  
SANTA FE, NEW MEXICO

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  yes  no

II. Operator: BBC, INC.  
Address: 101 E. Marland, Suite 112, Hobbs, New Mexico 88240  
Contact party: Arthur R. Brown, Agent Phone: 505-397-2767

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.).

\*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological 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 source 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 source 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: Arthur R. Brown Title Agent

Signature: *Arthur R. Brown* Date: \_\_\_\_\_

\* If the information required under Sections VI, VIII, X, and XI is submitted, it need not be duplicated and resubmitted. Part of the earlier submittal.

BBC, INC.  
Case No. 8346  
9/19/84 Examiner Hearing  
Exhibit No. 1

DISTRIBUTION: Original and one copy to Santa Fe with one district office.

## 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 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, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

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

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**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.

APPLICATION FOR AUTHORITY TO INJECT

SUPPLEMENTAL INFORMATION

BBC, INC.  
WELL NO. 1 FEDERAL AZ  
EDDY COUNTY, NEW MEXICO

ITEM:

III. INJECTION WELL DATA:

- A. (1) Well Name: BBC, Inc. Federal AZ No. 1  
2080' FSL & 660' FEL of Section 29,  
T.26 S., R.30 E., Eddy County, New Mexico.

This well was originally drilled by Amoco Production Company as well No. 1 Federal AZ to a total depth of 3580 feet during the period 6-18-80 to 6-29-80. After the initial testing period, the well was shut in 10-27-80. Additional testing during June 1982 failed to indicate commercial production, and the well was plugged and abandoned 12-30-82.

(2) Casing Data:

13-3/8" Casing:

13-3/8" 48# casing set at 950 feet in 17-1/2" hole.  
Cemented with 1100 sacks of Class "C" cement with 2% CaCl.  
Plug down at 2:25 A.M. 6-20-80. Circulated 216 sacks.

9-5/8" Casing:

9-5/8" 36# casing set at 3555 feet in 12-1/4" hole.  
Cemented with 1700 sacks of Lite with 5% Gilsonite, 1/4#  
Flocele/sack, and 18# salt/sack followed with 200 sacks of  
Class "C". Plug down at 5:00 A.M. 7-1-80. Top cement at  
approx. 410 feet by temperature survey.

(3) Injection Tubing:

Size: 4-1/2"

Lining Material: Plastic.

Setting Depth: 3300 feet.

(4) Injection Packer:

Type: Baker Lok-Set, Model A-3 Packer, or equivalent.

Setting Depth: 3300 feet.

B. (1) Injection Formation: Delaware formation. The proposed injection well is not in a defined oil or gas pool. It is 1-1/8 mile west of the defined limits of the Ross Draw Delaware Gas Pool.

(2) Injection Interval: Injection will be into perforated interval 3350-3396 feet and into open hole interval 3555-3700 feet. (To prepare well for injection, the interval 3350-3396, originally perforated with 1 shot/foot, will be re-perforated with 4 shots/foot, and the well will be deepened from the original total depth of 3580 feet to a new total depth of 3700 feet.

EXHIBITS "A" and "B", attached, are schematics showing present well data for the proposed injection well and well data after re-completion for salt water disposal.

(3) Original Purpose of Well: This well was drilled originally as a 3580 foot Delaware test.

(4) Other Perforated Intervals: There are no perforated intervals in this proposed injection well other than the interval 3350-3396 feet mentioned above.

(5) Overlying and Underlying Oil and Gas Zones: There are no overlying oil and gas zones. Nearby oil and gas completions in underlying formations are as follows:

<u>WELL #</u>	<u>WELL LOCATION</u>	<u>COMPLETION INTERVAL</u>	<u>PRESENT STATUS</u>
1	UL.P-Sec.28	4888-4915 Lower Delaware	Oil Well
5	K 27	8235-8500 Bone Springs	Gas Well
1	F 29	11,680-11,918 Wolfcamp	Gas Well (SI)
10	E 27	14,305-14,405 Morrow	Gas Well

V. MAP: The attached land plat, Exhibit "C", shows wells and leases within two miles of the proposed injection well, and the proposed injection well's "area of review".

VI. WELLS IN AREA OF REVIEW:

There are two wells, both plugged and abandoned, in the area of review. One is near the center of the area of review and the other is near the north boundary. Well data for each well is as follows:

- (1) Well: Texas Pacific Coal and Oil Company well No. 1 U.S.A. (New Mexico) "A".

Well Type: Dry hole.

Well Location: 1980' FSL & 660' FEL of Section 29, T.26 S., R.30 E. Eddy County, New Mexico.

Drilling Method: Rotary.

Date Spudded: 8-9-55.

Drilling Completed: 8-25-55.

Total Depth: 3410 feet.

Casing Run: 9-5/8" 32# H-40 casing set at 350 feet in 12-1/4" hole. Cemented with 350 sacks of cement. Cement circulated.

5-1/2" 14# J-55 casing set at 3407 feet in 7-7/8" hole. Cemented with 150 sacks of cement.

Completion: Dry and abandoned 8-31-55. 5-1/2" casing cut and pulled from 2847 feet. 15-sack cement plug set at 2832 feet, 35-sack cement plug set at 350 feet, and a 10-sack cement plug set at surface with 4" pipe marker. Heavy mud between plugs.

Schematic: Exhibit "D" is a schematic showing plugging detail.

- (2) well: Fred Pool Drilling Company well No. 1 Federal TP.

well Type: Dry Hole.

well Location: 660' FNL & 660' FEL of Section 29, T.26 S., R.30 E., Eddy County, New Mexico.

Drilling Method: Cable tools.

Date Spudded: 9-27-60.

Drilling Completed: 12-14-60.

Total Depth: 3407 feet.

Casing Run: 10-3/4" 36# casing mudded in at 575 feet.

8-5/8" 24# casing mudded in at 1132 feet.

All of above casing recovered prior to abandonment.

Completion: Plugged and Abandoned 1-15-61. All casing recovered. 60' cement plug at total depth. Hole filled with heavy mud to 8-5/8" casing. All of 8-5/8" casing pulled. 60' cement plug at 1132'. Hole filled with heavy mud to 10-3/4" casing. All of 10-3/4" casing pulled. 60' cement plug at 575'. Hole filled with heavy mud. Plug at surface with regulation marker.

Schematic: Exhibit "E" is a schematic showing plugging detail.

VII. PROPOSED OPERATIONS DATA:

- (1) Proposed Average Daily Injection Rate: 5000 bbls.  
Proposed Maximum Daily Injection Rate: 7000 bbls.
  - (2) Type of System: Open.
  - (3) Proposed Average Injection Pressure: 500 psi.  
Proposed Maximum Injection Pressure: \*670 psi.
  - (4) Sources of Injection Water: Produced water from the Delaware and Wolfcamp formations. Water analyses are attached.
  - (5) Receiving Formation: Delaware formation. Attached water analyses are applicable.
- \* Until fracture gradient is determined, maximum injection pressure will be based on a 0.2 psi/foot gradient.

VIII. INJECTION FORMATION:

- (1) The injection formation is the Delaware sand which is a very fine grained quartz sand with variable porosity and permeability and with occasional thin lime and shale beds. Top of the Delaware lime in the proposed injection well is 3300 feet, and the top of the Delaware sand is at 3330 feet. Although gross thickness of the Delaware formation is around 3900 feet, proposed injection is limited to the top 400 feet.
- (2) There are no known underground sources of drinking water in the area.

IX. STIMULATION PROGRAM:

- (1) 5000-gallon acid treatment.

X. WELL LOG AND TEST DATA:

- (1) A copy of a portion of the well log is attached showing the Delaware section penetrated by the proposed injection well when the well was drilled and the present perforated interval.
- (2) No production tests were reported during the initial test period following perforating the interval 3350-3396 feet and acid treatment totaling 6500 gallons. The operator began flow testing the well on 6-14-82, after the well had been shut in since 10-27-80, and reported "the well flowed 44 bbls. oil and 611 bbls. of water in first 48 hours. Well depleted during next 144 hours (6 days) to 0 bbls. of oil, 766 bbls. of water, and no show of gas."

XI. FRESH WATER WELLS:

- (1) There are no fresh water wells within one mile of the proposed injection well.

XII. AFFIRMATIVE STATEMENT:

BBC, Inc. has examined available geologic and engineering data and found no evidence of open faults, or any other hydrologic connection between the proposed disposal zone and any underground source of drinking water.

XIII. PROOF OF NOTICE: Offset operators are being notified.

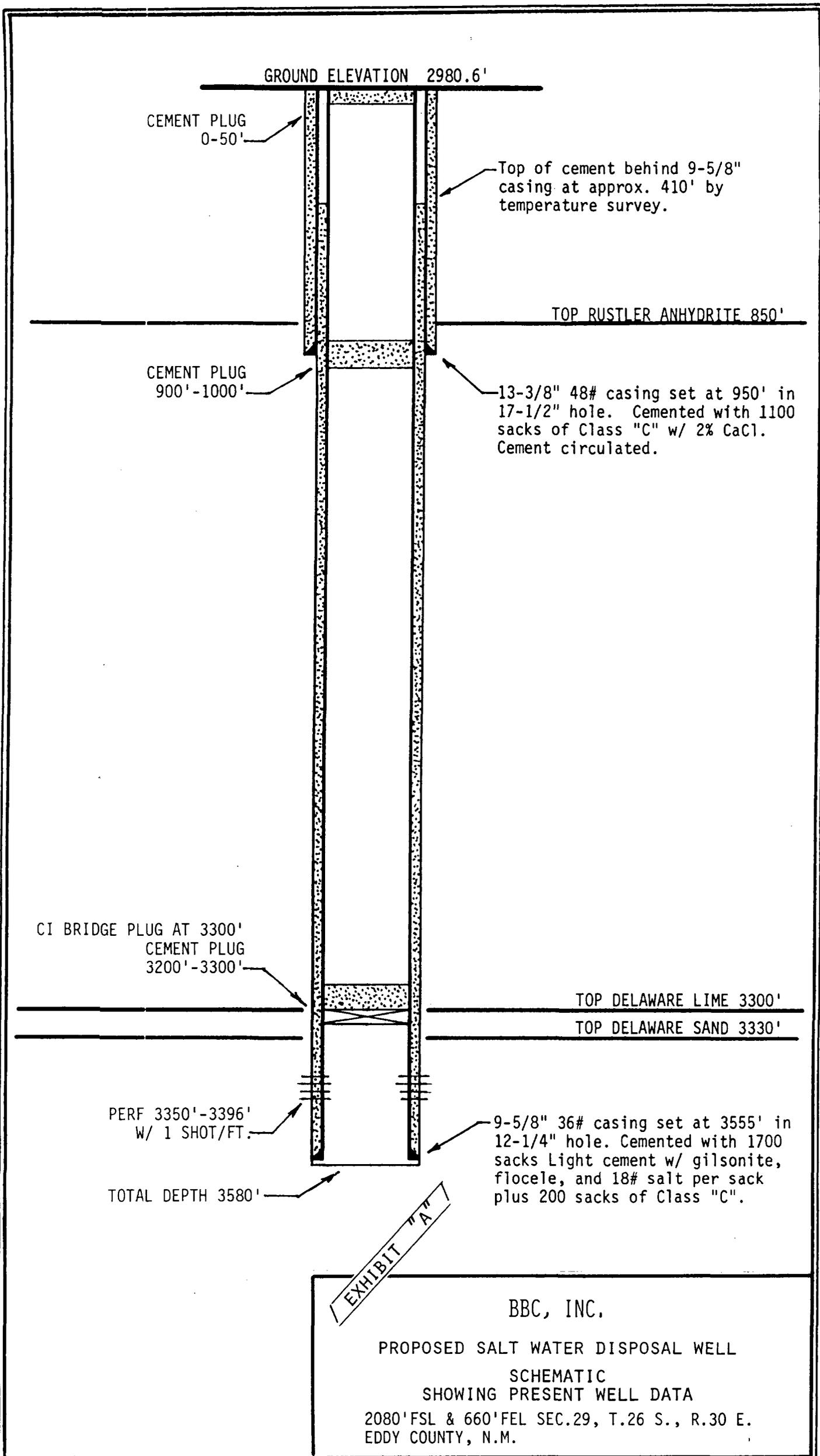


EXHIBIT "A"

BBC, INC.

PROPOSED SALT WATER DISPOSAL WELL  
 SCHEMATIC  
 SHOWING PRESENT WELL DATA  
 2080' FSL & 660' FEL SEC. 29, T. 26 S., R. 30 E.  
 EDDY COUNTY, N.M.

GROUND ELEVATION 2980.6'

Top of cement behind 9-5/8" casing at approx. 410' by temperature survey.

TOP RUSTLER ANHYDRITE 850'

13-3/8" 48# casing set at 950' in 17-1/2" hole. Cemented with 1100 sacks of Class "C" w/ 2% CaCl. Cement circulated.

ANNULUS FILLED WITH INERT FLUID

INJECTION PROPOSED THRU 4-1/2" TUBING AND BELOW PRODUCTION RETAINER PACKER SET AT ABOUT 3300 FEET

TOP DELAWARE LIME 3300'

TOP DELAWARE SAND 3330'

RE-PERFORATE INTERVAL 3350'-3396' W/ 4 SHOTS/FT.

PROPOSED INJECTION INTO PERFORATED INTERVAL AND INTO OPEN HOLE INTERVAL 3555'-3700'

9-5/8" 36# casing set at 3555' in 12-1/4" hole. Cemented with 1700 sacks Light cement w/ gilsonite, flocele, and 18# salt per sack plus 200 sacks of Class "C".

NEW TOTAL DEPTH 3700'

EXHIBIT "B"

BBC, INC.

PROPOSED SALT WATER DISPOSAL WELL SCHEMATIC SHOWING WELL DATA AFTER RE-COMPLETION FOR SALT WATER DISPOSAL

2080'FSL & 660'FEL SEC.29, T.26 S., R.30 E. EDDY COUNTY, N.M.



SURFACE ELEVATION 2980'

10-SACK CEMENT PLUG  
35-SACK CEMENT PLUG AT 350'  
9-5/8" CASING SET AT 350' W/350 SACKS. CEMENT CIRCULATED.

HEAVY MUD BETWEEN PLUGS

15-SACK CEMENT PLUG AT 2832'  
5-1/2" CASING CUT & PULLED FROM 2847'

PERFORATIONS 3349'-3357'  
5-1/2" CASING SET AT 3407' W/150 SACKS

TOP DELA. LM. 3300'

TOTAL DEPTH 3410'

OPERATOR: Texas Pacific Coal and Oil Co.

WELL NAME: U.S.A.(New Mexico) "A" No. 1.

WELL LOCATION: 1980' FSL & 660' FEL  
Sec.29, T.26 S., R.30 E.,  
Eddy County, New Mexico.

DATE SPUDED: 8-9-55.

FINISHED DRILLING: 8-25-55.

TOTAL DEPTH: 3410'.

DRILLING METHOD: Rotary.

PRESENT WELL STATUS: Plugged & Abd.

CASING DATA: 9-5/8" 32# H-40 casing set at 350 feet in 12-1/4" hole. Cemented with 350 sacks cement. Cement circulated.

5-1/2" 14# J-55 casing set at 3407 feet in 7-7/8" hole. Cemented with 150 sacks cement.

PLUGGING RECORD: Dry and abandoned 8-31-55. 5-1/2" casing cut and pulled from 2847 feet. 15-sack cement plug set at 2832 feet, 35-sack cement plug set at 350 feet, and a 10-sack cement plug set at surface with 4" pipe marker. Heavy mud between plugs.

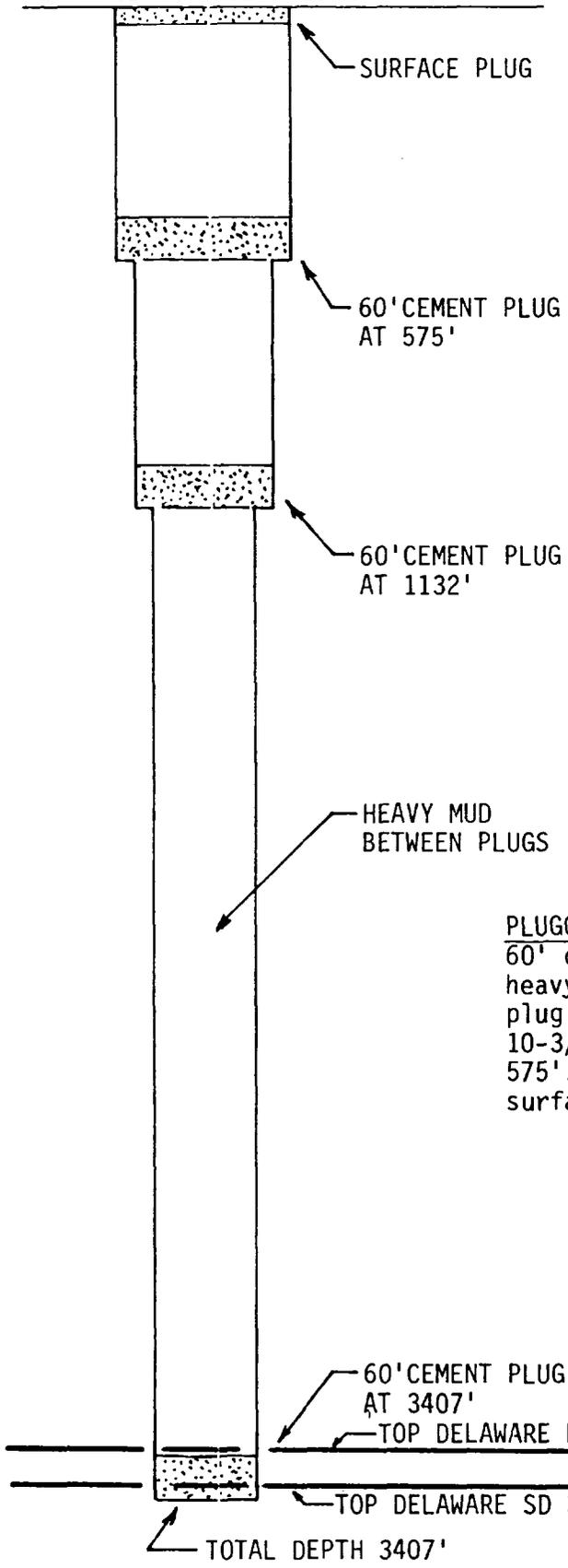
EXHIBIT "D"

BBC, INC.

APPLICATION FOR AUTHORITY TO INJECT  
PLUGGING DETAIL

TEXAS PACIFIC COAL AND OIL COMPANY  
WELL NO. 1 U.S.A. (NEW MEXICO) "A"  
1980' FSL & 660' FEL SEC.29, T.26 S., R.30 E.  
EDDY COUNTY, N.M.

SURFACE ELEVATION 2971'



OPERATOR: Fred Pool Drilling Company.

WELL NAME: Federal TP NO. 1.

WELL LOCATION: 660' FNL & 660' FEL  
Sec.29, T.26 S., R.30 E.,  
Eddy County, New Mexico.

DATE SPUDDED: 9-27-60.

FINISHED DRILLING: 12-14-60.

WELL COMPLETED: P.& Abd. 1-15-61.

TOTAL DEPTH: 3407'.

DRILLING METHOD: Cable Tools.

CURRENT WELL STATUS: Plugged & Abd.

CASING DATA: 10-3/4" Casing Mudded in  
at 575'.  
8-5/8" Casing Mudded in  
at 1132'.

All of Above Casing Recovered  
Prior to Abandonment.

PLUGGING RECORD: TD 3407. All Casing Recovered.  
60' cement plug at total depth. Hole filled with  
heavy mud to 8-5/8". 8-5/8" pulled. 60' cement  
plug at 1132'. Hole filled with heavy mud to  
10-3/4". 10-3/4" pulled. 60' cement plug at  
575'. Hole filled with heavy mud. Plug in  
surface w/ regulation marker.

EXHIBIT "E"

BBC, INC.

APPLICATION FOR AUTHORITY TO INJECT

PLUGGING DETAIL

FRED POOL DRILLING COMPANY

WELL NO.1 FEDERAL TP

660'FNL & 660'FEL SEC.29, T.26 S., R.30 E.  
EDDY COUNTY, N.M.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES  
MIDLAND DIVISION  
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W83-929

To BBC, Inc.

Date 8-4-83

105 E. Marland

Hobbs, New Mexico

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by \_\_\_\_\_ Date Rec. 8-4-83

Well No. Not Designated Depth \_\_\_\_\_ Formation As Marked

County \_\_\_\_\_ Field \_\_\_\_\_ Source \_\_\_\_\_

	<u>Cherry Canyon</u>	<u>Bell Canyon</u>	
Resistivity	<u>0.049 @ 74°F.</u>	<u>0.070 @ 74°F.</u>	
Specific Gravity	<u>1.181</u>	<u>1.086</u>	
pH	<u>5.4</u>	<u>6.9</u>	
Calcium (Ca)	<u>23,700</u>	<u>8,000</u>	<u>*MPL</u>
Magnesium (Mg)	<u>6,240</u>	<u>1,500</u>	
Chlorides (Cl)	<u>169,000</u>	<u>76,000</u>	
Sulfates (SO <sub>4</sub> )	<u>310</u>	<u>1,640</u>	
Bicarbonates (HCO <sub>3</sub> )	<u>75</u>	<u>145</u>	
Soluble Iron (Fe)	<u>5</u>	<u>Nil</u>	
Sodium, Na (Calc.)	<u>70,766</u>	<u>38,122</u>	
Total Dissolved Solids (Calc.)	<u>270,096</u>	<u>125,407</u>	

Remarks: \_\_\_\_\_ \*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

HALLIBURTON COMPANY

cc:

By W. Z. Brewer  
CHEMIST

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES  
MIDLAND DIVISION  
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W83-928

To BBC, Inc.

Date 8-4-83

103 5. Marland

Hobbs, New Mexico

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Submitted by \_\_\_\_\_ Date Rec. 8-4-83

Well No. Not Designated Depth \_\_\_\_\_ Formation As Marked

County \_\_\_\_\_ Field \_\_\_\_\_ Source \_\_\_\_\_

	<u>Brushy Canyon</u>	<u>Wolfcamp</u>	
Resistivity	<u>0.048 @ 74°F.</u>	<u>0.089 @ 74°F.</u>	
Specific Gravity	<u>1.209</u>	<u>1.057</u>	
pH	<u>5.3</u>	<u>6.0</u>	
Calcium (Ca)	<u>32,200</u>	<u>1,800</u>	*MPL
Magnesium (Mg)	<u>5,760</u>	<u>840</u>	
Chlorides (Cl)	<u>197,000</u>	<u>48,000</u>	
Sulfates (SO <sub>4</sub> )	<u>160</u>	<u>185</u>	
Bicarbonates (HCO <sub>3</sub> )	<u>95</u>	<u>230</u>	
Soluble Iron (Fe)	<u>Nil</u>	<u>5</u>	
Sodium, Na (Calc.)	<u>80,067</u>	<u>27,657</u>	
Total Dissolved Solids (Calc.)	<u>315,282</u>	<u>78,717</u>	

Remarks: \_\_\_\_\_ \*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

HALLIBURTON COMPANY

cc:

By W. D. Brewer  
CHEMIST

NOTICE

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FORMATION DENIED

COMPANY AMOCO PRODUCTION COMPANY

RECEIVED

API #30-015-2332

JUL 14 1980

FEDERAL AZ #1

BRUSHY DRAW DELAWARE O. C. D.

ARTESIA, OFFICE

NEW MEXICO

EDDY COUNTY STATE

Other Services:

2080' FSL & 660' FEL 9

DLL  
LONG SPG  
NGT

CL OF 2" BHO ; Elev.: 2980.6

Log Measured From RDB ; 15 Ft. Above Perm. Datum

Drilling Measured From RDB

Elev.: RDB 2995

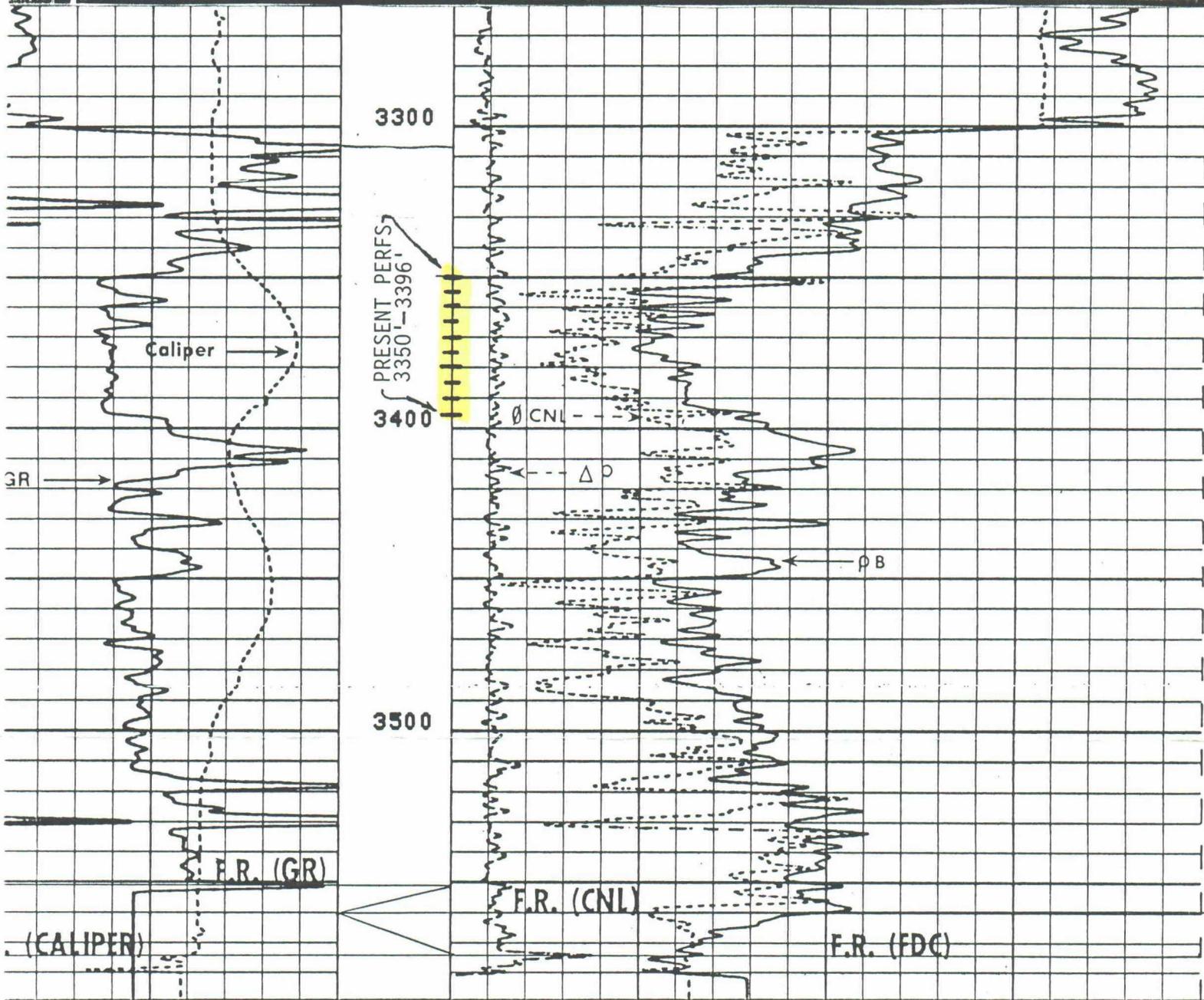
D.F. 2980

G.I. 2980

BBC, INC.  
(FORMERLY AMOCO PRODUCTION COMPANY)  
WELL NO. 1 FEDERAL AZ  
2080' FSL & 660' FEL SEC. 29, T. 26 S., R. 30 E.  
EDDY COUNTY, NEW MEXICO

EDDY COUNTY BRUSHY DRAW DELA. FEDERAL AZ #1  
LOCATION  
WELL  
COMPANY AMOCO PRODUCTION CO

Date	6-28-80
Run No.	ONE
Depth-Driller	3580
Depth-Logger	3576
Btm. Log Interval	3575
Top Log Interval	
Casing-Driller	13 3/8 @950
Casing-Logger	946
Bit Size	12 1/4
Type Fluid in Hole	SALT MUD
Dens.	10.2
Visc.	36
pH	9.0
Fluid Loss	28 ml
Source of Sample	CIRC
Rm @ Meas. Temp.	.039 @96 °F
Rmf @ Meas. Temp.	.039 @96 °F
Rmc @ Meas. Temp.	@ °F
Source: Rmf	M
Rmc	
Rm @ BHT	.044 @85 °F
Circulation Stopped	0500
Logger on Bottom	1100
Max. Rec. Temp.	85 °F
Equip. Location	8185 HOBBS
Recorded By	MOBARAK
Witnessed By Mr.	BECHTOL



SGR (GAPI)	0	100.0
CALISIN	0.00	16.00
DRHO (G/C3)	-0.050	0.4500
NPHI	0.3000	-0.100
RHO (G/C3)	2.000	3.000



Amoco Production Company  
P. O. Box 68  
Hobbs, New Mexico 88240

El Paso Exploration Company  
1800 Wilco Building  
Midland, Texas 79701

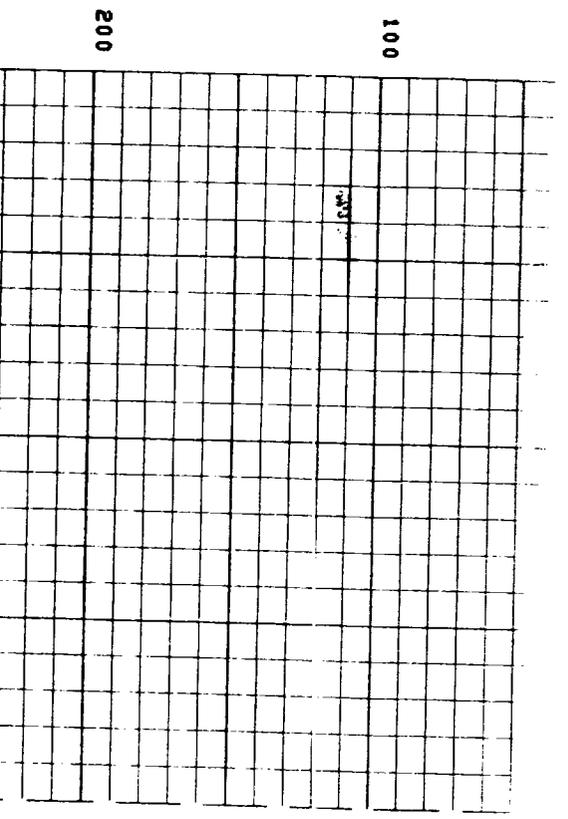
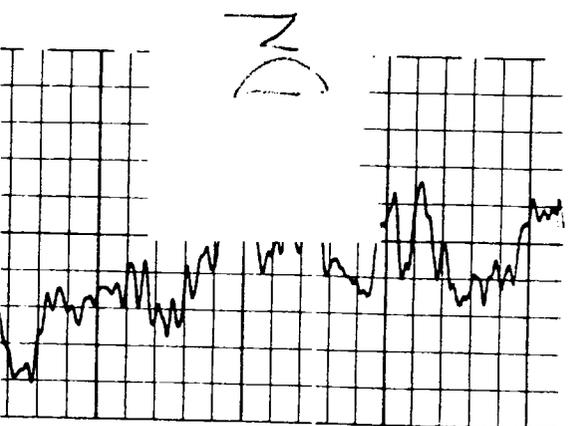
Estoril Producing Corporation  
11th Floor, Vaughn Building  
Midland, Texas 79701

Patti Menefee  
Patti Menefee

SUBSCRIBED AND SWORN TO before me this 24th day of  
August, 1984.

My commission expires:  
11-3-84

Patricia Ferguson  
Notary Public



SIMULTANEOUS  
**COMPENSATED NEUTRON-  
 FORMATION DENSITY**

Schlumberger

COUNTY EDDY FIELD BRUSHY DRAW DELA. LOCATION FEDERAL AZ #1 WELL FEDERAL AZ #1 COMPANY AMOCO PRODUCTION CO.	COMPANY AMOCO PRODUCTION COMPANY		RECEIVED									
	API #30-015-23324		JUL 14 1980									
	WELL FEDERAL AZ #1		O. C. D.									
	FIELD BRUSHY DRAW DELAWARE		ARTESIA, OFFICE									
COUNTY EDDY		STATE NEW MEXICO										
LOCATION 2080' FSL & 660' FE: 9			Other Services:									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>API SERIAL NO</th> <th>SEC</th> <th>TWP</th> <th>RANGE</th> </tr> <tr> <td>29</td> <td>26-S</td> <td>30-E</td> <td></td> </tr> </table>			API SERIAL NO	SEC	TWP	RANGE	29	26-S	30-E		DLL LONG SPG. NGT	
API SERIAL NO	SEC	TWP	RANGE									
29	26-S	30-E										
Permanent Datum: CL. OF 2" BHO; Elev.: 2980.6 Log Measured From: RDB, 15 Ft. Above Perm. Datum Drilling Measured From: RDB			Elev.: RDB 2995.6 D.F. G.L. 2980.6									
Date	6-28-80											
Run No.	ONE											
Depth-Driller	3580											
Depth-Logger	3576											
Btm. Log Interval	3575											
Top Log Interval	SURF											
Casing-Driller	13 3/8 @950	@	@	@								
Casing-Logger	946											
Bit Size	12 1/4											
Type Fluid in Hole	SALT MUD											
Dens.	10.2	36										
pH	9.0	28 ml	ml	ml								
Fluid Loss												
Source of Sample	CIRC											
Rm @ Meas. Temp.	.039 @96 °F	@ °F	@ °F	@ °F								
Rmf @ Meas. Temp.	.039 @96 °F	@ °F	@ °F	@ °F								
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F								
Source: Rmf   Rmc	M											
Rm @ BHT	.044 @85 °F	@ °F	@ °F	@ °F								
Circulation Stopped	0500											
Logger on Bottom	1100											
Max. Rec. Temp.	85 °F	°F	°F	°F								
Equip. Location	3185 HOBBS											
Recorded By	MOBARAK											
Witnessed By Mr.	BECHTOL											

The well name, location and borehole reference data were furnished by the customer.  
 FOLD HERE

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

(8:40 AM)  
1/15/85 M.S.  
JPP 1/16/85  
JT

CASE NO. 8346

Order No. R-7781

APPLICATION OF BBC, INC. FOR  
SALT WATER DISPOSAL, EDDY COUNTY,  
NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on September 19,  
1984, at Santa Fe, New Mexico, before Examiner Michael E.  
Stogner.

NOW, on this \_\_\_\_\_ day of January, 1985, the Division  
Director, having considered the testimony, the record, and the  
recommendations of the Examiner, and being fully advised in the  
premises,

*[Handwritten signature]*

*[Handwritten initials]*

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, BBC, Inc., proposes to re-enter and be designated the operator of the Amoco Production Company Federal "AZ" Well No. 1, plugged and abandoned October 3, 1983, located 2080 feet from the South line and 660 feet from the East line (Unit I) of Section 29, Township 26 South, Range 30 East, NMPM, Eddy County, New Mexico.

(3) The applicant proposes to utilize said well to dispose of produced salt water into the Delaware formation, with injection into the perforated interval from approximately 3,350 feet to 3,396 feet and into an open-hole interval from 3,555 feet to 3,700 feet.

(4) The operator of said proposed Federal "AZ" Salt Water Disposal Well No. 1 should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface via surrounding injection, production, and/or plugged and abandoned wells.

(5) The following described previously plugged and abandoned wells are located within one-half mile of said Federal "AZ" Well No. 1:

<u>WELL NAME AND NO.</u>	<u>FOOTAGE LOCATION</u>	<u>P &amp; A DATE</u>
Texas Pacific Coal & Oil Company U.S.A. (New Mexico) "A" Well No. 1	1980' FSL & 660' FEL (Unit P)	12/21/60
Fred Pool Drilling Company Federal "TP" Well No. 1	660' FN & <del>660' FEL</del> EL (Unit A)	12/5/63

both in Section 29, Township 26 South, Range 30 East, NMPM,  
Eddy County, New Mexico.

(6) Prior to commencement of injection into said Federal "AZ" Well No. 1, the operator should demonstrate that the wells described in Finding Paragraph No. (5) above have either been re-plugged or have been previously plugged and abandoned in such a manner as to ensure that they do not provide an avenue of escape for fluid from the proposed injection zone and in accordance with a program that is satisfactory to the supervisor of the Division's district office at Artesia.

(7) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(8) The injection should be accomplished through 4 1/2-inch plastic lined tubing installed in a packer set at approximately 3300 feet; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(9) The injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 670 psi.

(10) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Delaware formation.

(11) The operator should notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(12) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(13) Approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, BBC, Inc., is hereby authorized to utilize its Federal "AZ" Well No. 1, located 2080 feet from the South line and 660 feet from the East line (Unit I ) of Section 29, Township 26 South, Range 30 East, NMPM, Eddy County, New Mexico, to dispose of produced salt water into the Delaware formation, injection to be accomplished through 4 1/2-inch tubing installed in a packer set at approximately 3300 feet, with injection into the perforated interval from approximately 3,350 feet to 3,396 feet and into an open-hole interval from 3,555 feet to 3,700 feet;

PROVIDED HOWEVER THAT, that the tubing shall be internally plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

PROVIDED FURTHER THAT: prior to injection operations, the casing in the subject well shall be pressure-tested throughout the interval from the surface down to the proposed packer setting depth of approximately 3300 feet, said pressure test to be performed by the application of a minimum of 300 psi at the

surface, to be held for at least 30 minutes. If a pressure drop of more than 10 percent should occur during such test, the casing shall be considered defective and remedial measures taken before injection operations. The Division's Artesia District Supervisor shall be notified of the date and time the aforesaid test will be conducted in order that he or his representative may witness said test.

PROVIDED FURTHER THAT: injection into the Delaware formation through said Federal "AZ" Well No. 1 shall not commence until the following described wells have either been re-plugged or are shown to have been adequately plugged and abandoned in a manner that is satisfactory to the supervisor of the Division's district office at Artesia:

<u>WELL NAME AND NO.</u>	<u>FOOTAGE LOCATION</u>
Texas Pacific Coal & Oil Company U.S.A. (New Mexico) "A" Well No. 1	1980' FSL & 660' FEL (Unit P)
Fred Pool Drilling Company Federal "TP" Well No. 1	660' FN & <del>660' FEL</del> + FL (Unit A)

both in Section 29, Township 26 South, Range 30 East, NMPM,  
Eddy County, New Mexico.

(2) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 670 psi.

(3) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Delaware formation.

(4) The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

(5) The operator shall immediately notify the supervisor of the Division's Artesia district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Rules and Regulations.

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year  
hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

R. L. STAMETS,  
Director

S E A L