



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**

Governor

**Betty Rivera**

Cabinet Secretary

**Lori Wrotenbery**

Director

**Oil Conservation Division**

March 14, 2002

ChevronTexaco  
15 Smith Road  
Midland, Texas 79705

Attn: Mr. Joe Williams

**Re:   Injection Pressure Increase ~ 170  
      Cotton Draw Unit No. 65  
      Eddy County, New Mexico**

Dear Mr. Williams:

Reference is made to your request dated February 11, 2002, to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on the well on February 7, 2002. After reviewing test results, we feel an increase in injection pressure is justified at this time.

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

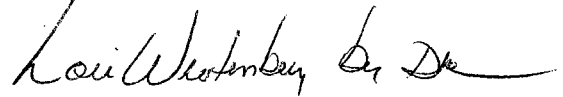
Well and Location	Maximum Surface Injection Pressure
Cotton Draw Unit Well No. 65	1,100 PSIG
Located in Unit G, Section 2, Township 25 South, Range 31 East, NMPM, Eddy County, New Mexico.	

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

*Injection Pressure Increase*  
*ChevronTexaco*  
*Cotton Draw Unit Well No. 65*  
*Page 2*

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Sincerely,

A handwritten signature in cursive script, appearing to read "Lori Wrotenbery".

Lori Wrotenbery  
Director

cc: Oil Conservation Division - Artesia  
Files: SWD-699; PSI-X, 2002

Texaco Exploration and  
Production Inc.  
Permian Business Unit  
15 Smith Road  
Midland, Texas 79705  
Tel 915 687 7193  
Fax 915 687 7905

Joe Williams  
Petroleum Engineer

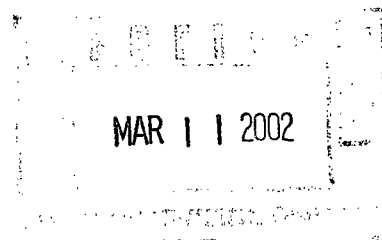
pKRVO207132128

1P1-170 N/R

February 11, 2002

ChevronTexaco

Mr. David Catanach  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, NM 87505



Mr. Catanach;

(30-015-10843)

ChevronTexaco performed a step rate test on the Cotton Draw Unit #65 on February 7, 2002 for the purpose of increasing the permitted disposal pressure on this SWD well. Notification was given to the OCD District 2 Office in Artesia on February 5, but they did not send a representative to witness the test.

The attached plot and table show the step rate test data for the Cotton Draw Unit #65 SWD. Also attached is a copy of the current disposal permit.

The well is equipped with 3-1/2" tubing to 5242'. The data table shows measured injection rates and wellhead pressures (WHP), calculated friction losses and calculated bottom hole pressures (BHP). The measured WHP and calculated BHP are plotted vs. injection rate.

It appears that the formation parting occurs at a WHP of 1250 psi & a calculated BHP of 3388 psi at a rate of 9500 BPD. The calculated frac gradient to the middle of the perforated interval at 5520' is 0.61 psi/ft.

ChevronTexaco proposes to increase the permitted wellhead injection pressure from 908 psi to 1100 psi. This would correspond to a calculated bottom hole pressure of 3300 psi or a gradient of 0.60 psi/ft to mid perf. The proposed pressure increase will allow ChevronTexaco to dispose of anticipated incremental water that will be produced with planned recompletions.

Please let me know if this data is sufficient for your requirements, or if additional supporting documentation is needed. Thanks for your consideration.

Sincerely,

*Joe Williams*

Joe Williams

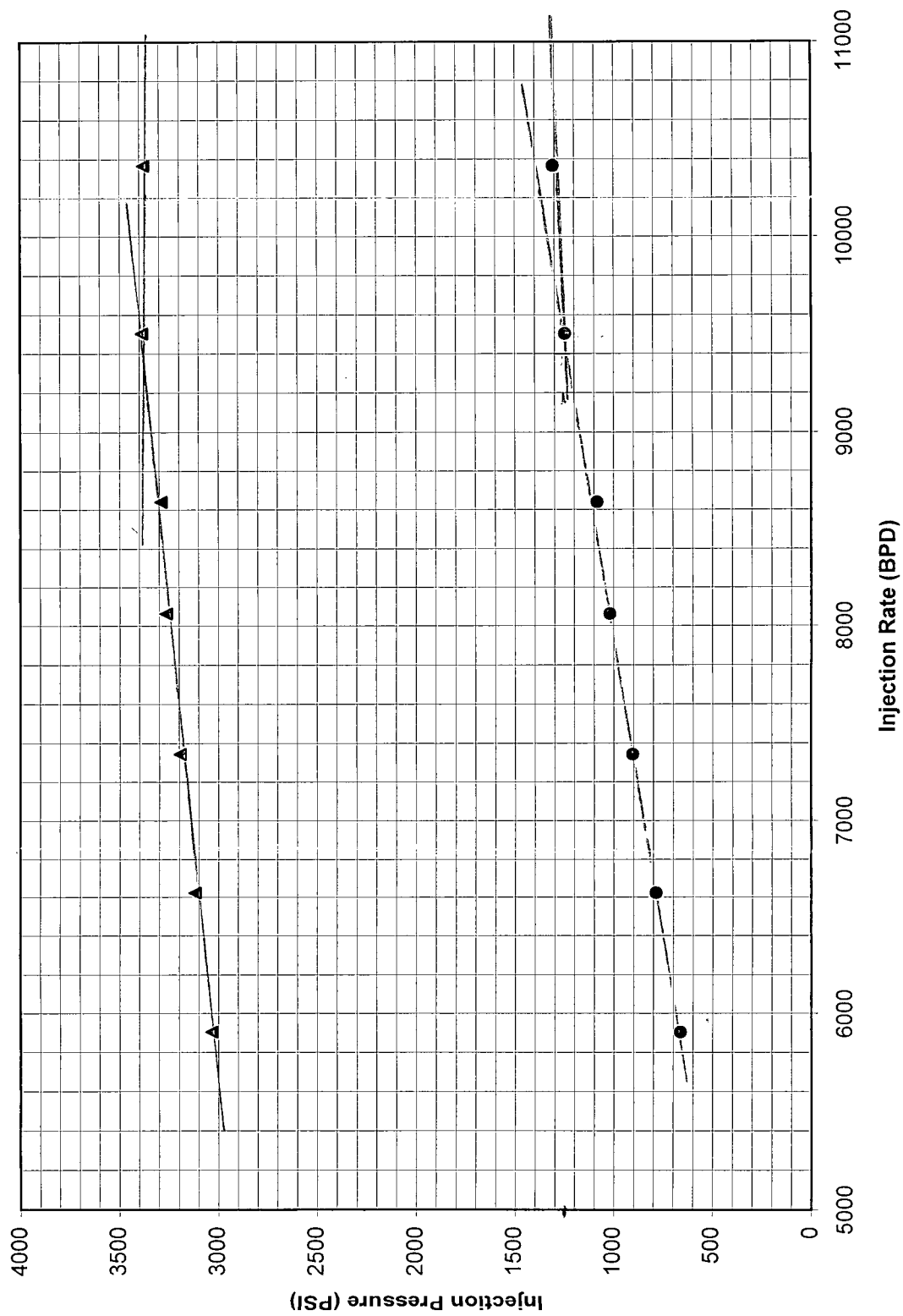
wjoe@chevrontexaco.com

Cotton Draw Unit #65  
Step Rate Test Data  
Test Date February 7, 2002

Injection Rate (BPD)	WHP (PSI)	dPf (PSI)	BHP (PSI)
5904	663	163	3035
6624	787	202	3120
7344	905	244	3196
8064	1020	290	3265
8640	1084	329	3290
9504	1247	394	3388
10368	1308	463	3380

Injection Rate and Wellhead Pressure (WHP) are measured data.  
Friction Loss (dPf) and Bottom Hole Pressure (BHP) are calculated values.

# Cotton Draw Unit #65





ADMINISTRATIVE ORDER SWD-699

***APPLICATION OF TEXACO EXPLORATION & PRODUCTION COMPANY  
FOR SALT WATER DISPOSAL, EDDY COUNTY, NEW MEXICO.***

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Rule 701(B), Texaco Exploration & Production Company made application to the New Mexico Oil Conservation Division on February 6, 1998, for permission to complete for salt water disposal its Cotton Draw Unit Well No.65 located 1980 feet from the North line and 1980 feet from the East line (Unit G) of Section 2, Township 25 South, Range 31 East, NMPM, Eddy County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;
- (2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;
- (3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and
- (4) No objections have been received within the waiting period prescribed by said rule.

**IT IS THEREFORE ORDERED THAT:**

The applicant herein, Texaco Exploration & Production Company is hereby authorized to complete its Cotton Draw Unit Well No.65 located 1980 feet from the North line and 1980 feet from the East line (Unit G) of Section 2, Township 25 South, Range 31 East, NMPM, Eddy County, New Mexico, in such manner as to permit the injection of salt water for disposal purposes into the Bell Canyon and Cherry Canyon formations at approximately 4542 feet to 5714 feet through 2 7/8-inch plastic-lined tubing set in a packer located at approximately 4500 feet.

IT IS FURTHER ORDERED THAT:

The operator shall 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.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 908 psi.

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 Bell Canyon or Cherry Canyon formations. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

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 test so that the same may be inspected and witnessed.

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

PROVIDED FURTHER THAT, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall submit monthly reports of the disposal operations on Form C-115 and in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 11th day of March, 1998.

  
LORI WROTENBERY, Director

LW/BES/kv

cc: Oil Conservation Division - Artesia