

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SF-080132**

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT - " for such proposals

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Designation and Serial No. <b>ISEC743</b>
2. Name of Operator Amoco Production Company		6. If Indian, Allottee or Tribe Name
Attention: Kelly Stearns		7. If Unit or CA, Agreement Designation
3. Address and Telephone No. P.O. Box 800, Denver, Colorado 80201 (303) 830-4457		8. Well Name and No. Florance /S/ #7A
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1750' FNL 1590'FWL Sec. 23 T 30N R 9W		9. API Well No. 3004522122
		10. Field and Pool, or Exploratory Area Basin Fruitland Coal
		11. County or Parish, State San Juan New Mexico

CHECK APPROPRIATE BOX(S) 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"/> Abandonment	<input type="checkbox"/> Change of Plans
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing	<input checked="" type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Other	<input type="checkbox"/> Dispose Water

Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form. I

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work, if well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Amoco Production Company intends to convert this well to an injection well.

For your reference a copy of the Application for Authorization to Inject is attached.

**RECEIVED**  
SEP -1 1993  
OIL CON. DIV  
DIST. 3

**RECEIVED**  
SEP 13 1993  
OIL CON. DIV  
DIST. 3

14. I hereby certify that the foregoing is true and correct  
Signed Kelly Stearns Title Business Analyst Date 07-30-1993  
(This space for Federal or State office use)

Approved by \_\_\_\_\_ Title \_\_\_\_\_  
Conditions of approval, if any:

**APPROVED**  
**AUG 28 1993**  
**DISTRICT MANAGER**

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.

**WORKOVER PROCEDURE**  
**Conversion to Injection/Production Well**

August 23, 1993

Florance 7A  
Mesaverde/Fruitland Coal  
Sec. 23 30N-09W

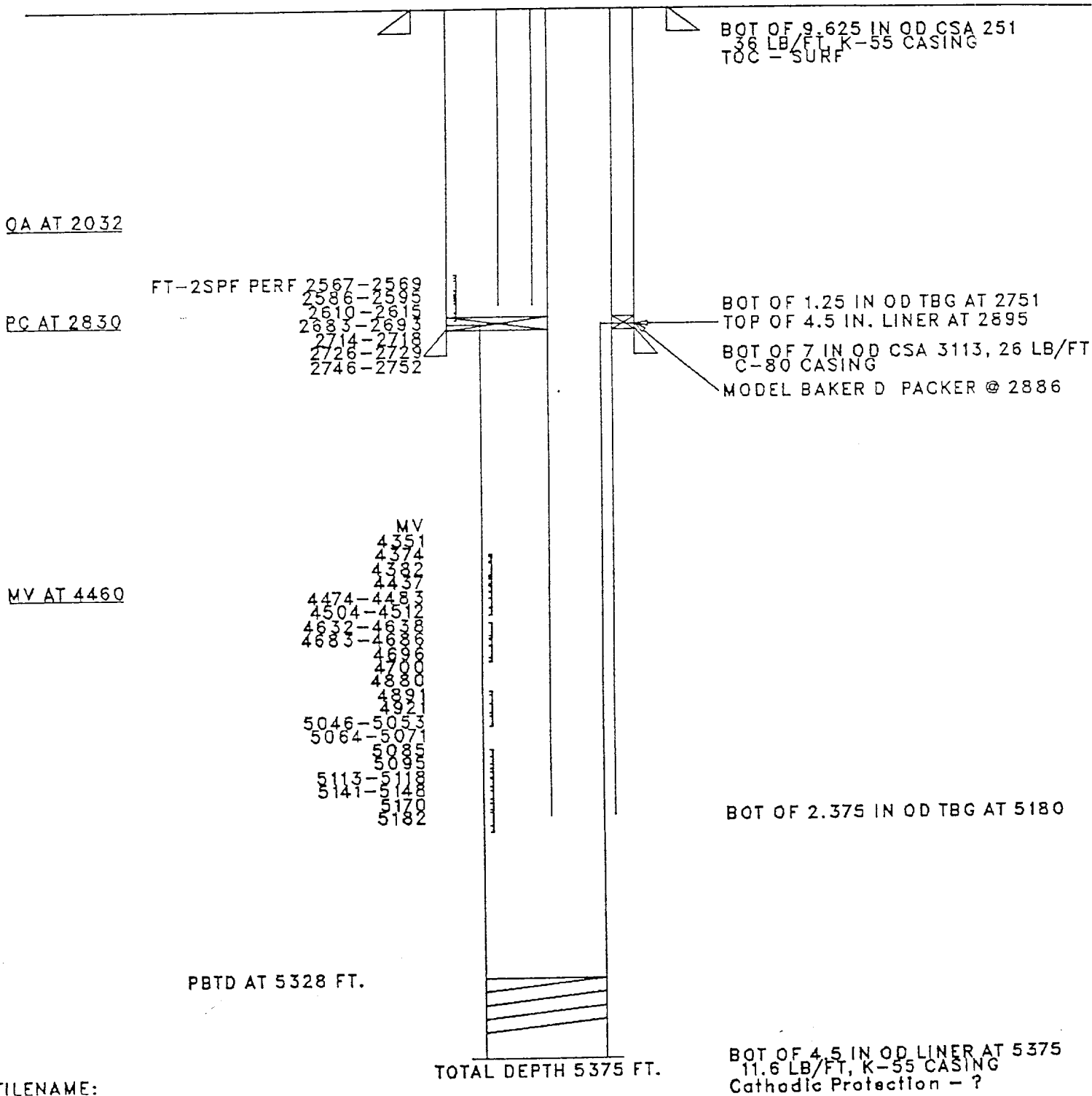
The objective of this workover is to convert the existing wellbore to allow injection of CO<sub>2</sub> into the Fruitland Coal formation. The Mesaverde formation will continue to produce during the injection test.

General Procedures

- 1) Check location for anchors. Install if necessary. Test anchors.
- 2) MIRUSU. Work well hot. NDWH. NUBOP.
- 3) TIH with short string and tag PBTD at 2886'. Check for fill. If fill found above perms, circulate out sand to 2886' with 70 quality foam. Tally OOH with 1 1/4" tubing. Lay down tubing.
- 4) TOOH with long string and Model Baker D pkr set at 2886'.
- 5) TIH with bit and scraper. TOOH. TIH with permanent pkr and set at 2886'. TOOH. TIH with Baker 47C2 "T2" DSR pkr and set at 2400'. Land long string at 5180'.
- 6) TIH with 2 3/8" tubing, hydrotest while running in hole. Sting into upper pkr and land tubing between 2500' - 2560'. Pressure test backside to 2500# to confirm casing and pkr integrity.
- 7) If necessary, swab well in and put on line.
- 8) NDBOP. NUWH. RDMOSU.

*Report any problems to Cris Zogorski at:*  
*(303) 830-4118 work*  
*(303) 751-2218 home*

FLORANCE 007A  
 Location - 23F- 30N- 9W  
 SINGLE MV  
 Orig. Completion - 9/76  
 LAST FILE UPDATE - 3/93 BY CSW  
 GL 6082'



FILENAME:  
 J4522122

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage  
Application qualifies for administrative approval? ☐ Yes ☒ No
- II. OPERATOR: Amoco Production Company  
ADDRESS: P.O. Box 800, Denver, CO 80201  
CONTACT PARTY: J. W. Hawkins PHONE: (303) 830-5072
- III. WELL DATA: Complete the data required on the reverse side of this form for each well processed 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 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 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: J. W. Hawkins TITLE: Sr. Petroleum Engr. Assoc.  
SIGNATURE: *J. W. Hawkins* DATE: 3/12/93
- \* 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 circumstance of the earlier submittal. \_\_\_\_\_

FLORANCE GAS COM /S/ #7A  
CO2 INJECTION WELL  
Sec. 23, T30N-R09W

III. See attachment III, Injection Well Data Sheet.

V. 1. 1 IN. = 4000 FT. 25 section plat, with one-half mile radius circle.

2. 1 IN. = 2000 FT. 9 section plat, with one half mile radius circle.

VI. See attachment VI, Well Tabulations. Amoco Production Company operates twelve wells within a one-half mile radius of the subject well.

VII. The proposed operation is to inject CO2 into the Fruitland Coal formation and to monitor production and pressure response. Data on the proposed operation is as follows:

1. Average daily injection rate 2.4 MMCFD.  
Maximum daily injection rate 3.0 MMCFD.

2. Closed system.

3. Average injection pressure 1000 psi.  
Maximum injection pressure 2000 psi.

4. The injection fluid is primarily CO2. The source of the injection fluid is a Cynara membrane unit located in the NE/4 of Sec. 27, T30N-R9W, at the Horse Canyon gas gathering system CPD. The injection fluid is the permeate from the membrane unit which is currently vented to atmosphere. The expected composition is approximately 80% CO2 and 20% methane. A compositional analysis will be provided prior to initiating operations. The injection fluid is compatible with the Fruitland coal formation.

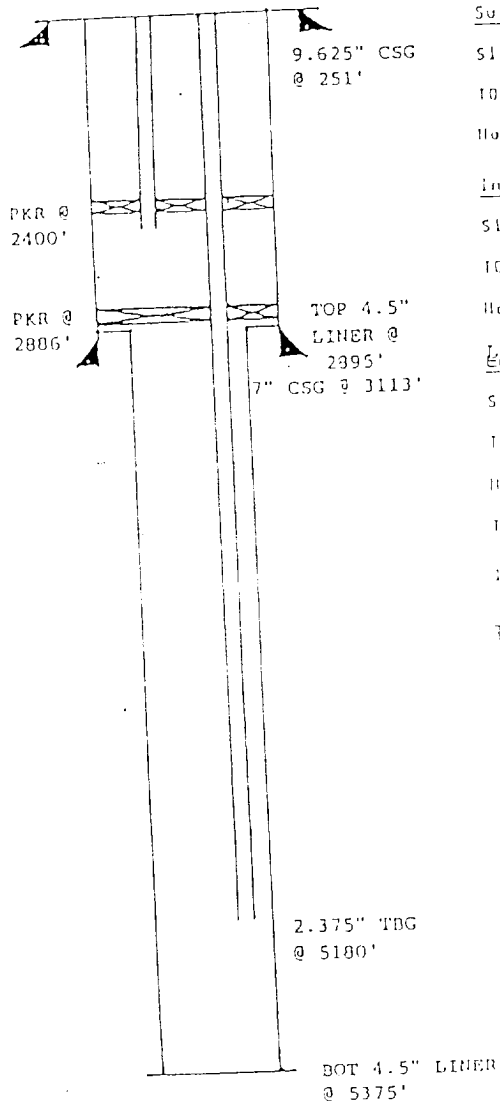
VIII. The injection zone is the Basin Fruitland Coal Gas Pool. It is comprised of eight coalbed seams interspersed with sand and shale stringers. The Fruitland coal interval is approximately 250 feet gross thickness, with 50 feet net coal. Individual seams range from 2 to 13 feet in thickness. The gross interval is found at 2522' to 2752' in the proposed injection well. The underground sources of drinking water in the area are the Alluvium, Nacimiento, and Ojo Alamo formations, all above 1400'.

- IX. The Fruitland Coal formation was completed in the subject well in 1984 by perforating from 2567' to 2752', and water fracing with 124,000 pounds of 20/40 sand and 99,000 gallons foam. No additional stimulation is anticipated at this time.
- X. All well logs are currently on file with the Division.
- XI. A search of state records with the State Engineers office did not reveal any fresh water wells within a one mile radius of the subject well.
- XII. I hereby certify that I have examined available geologic and engineering data and can find no evidence of connection between the injection zone and underground drinking water sources.
- XIII. See attachment XIII, Proof of Notice.

# INJECTION WELL DATA SHEET

AMOCO PRODUCTION COMPANY FLORANCE GC /S/ ATTACHMENT 111  
 OPERATION LEASE  
 1A 1750' FNL, 1590' FNL 23 30 NORTH 9 WEST  
 WELL NO. TOWNSHIP RANGE  
 SAN JUAN COUNTY, NEW MEXICO

## Schematic



## Tubular Data

### Surface Casing

Size 9 5/8" Cemented with 200 xx.  
 TOC SURFACE feet determined by CIRCULATION  
 Hole size 12 1/4"

### Intermediate Casing

Size 7 Cemented with 300 xx.  
 TOC 890 feet determined by CBL  
 Hole size 8 3/4"

### LINER

Size 4 1/2 Cemented with 275 xx.  
 TOC 2895 feet determined by CIRCULATION  
 Hole size 6 1/8"  
 Total depth 5375

### Injection Interval

2567 feet to 2752 feet  
 (perforated XXXXXXXXXXXXXXXXXXXXXXXXXX)

Tubing size 2 3/8" lined with TUBOSCOPE TK77 set in a  
 (material)  
BAKER 47C2 "T2" DSR packer at 2400 feet.  
 (brand and model)  
 (or describe any other casing-tubing seal).

## Other Data

- Name of the injection formation FRUITLAND COAL
- Name of field or pool (if applicable) BASIN FRUITLAND COAL
- Is this a new well drilled for injection? ☐ Yes ☒ No  
 If no, for what purpose was the well originally drilled? MESAVERDE PRODUCTION
- Has the well ever been perforated in any other zone(s)? (list all such perforated intervals and give plugging detail (backs of cement or bridge plug(s) used) MESAVERDE PERES:  
4471' - 4807'; 4880' - 5182'
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PICTURED CLIFFS 2830' MESAVERDE 4460'

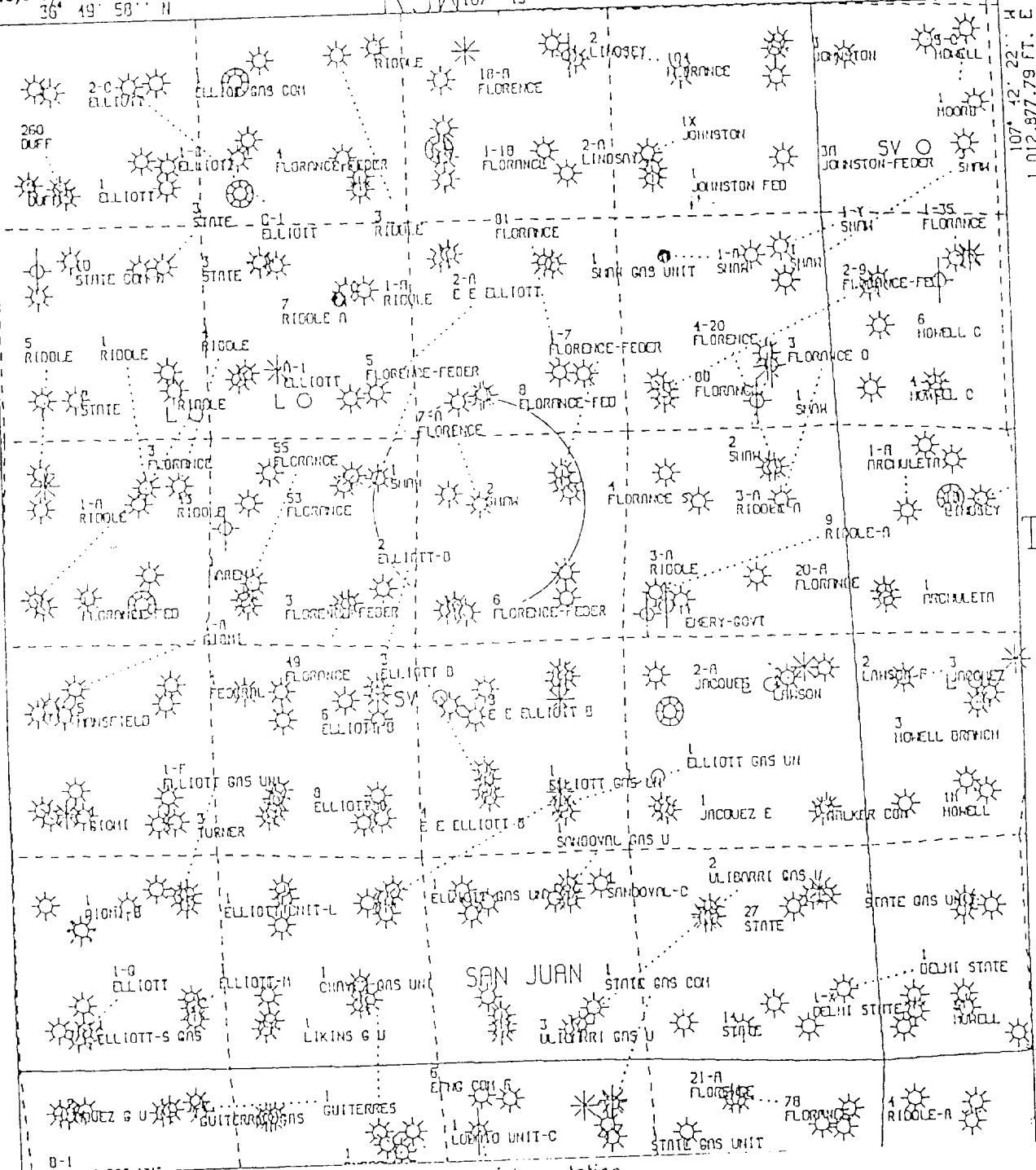
R9W 107° 45'

13,378,489.03 FT. N  
36° 49' 58" N

13,378.489.03 FT. N  
26' 19" 58" N

22:21 FT.: 39: 107 47

107° 42' 22" N  
012.877.79 FT. E



T30

All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

AMOCO PRODUCTION COMPANY  
FLORANCE GC /S/ #7A  
INJECTION WELL  
SEC 23-T30N-R09W  
SAN JUAN NM  
25 SEC. PLAT  
SCALE 1 IN. = 4,000 FT. MAR 8, 1993

1993 MAR 3 1993

253--RIN# 93067190702