

DATE IN 2.7.12 SUSPENSE ENGINEER WVS LOGGED IN 2.7.12 TYPE SWD APP NO. 1203953896

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



*Strata Production Co.*  
*2/7/12*

*Forty Niner Ridge Unit #6*

**ADMINISTRATIVE APPLICATION CHECKLIST**

*30-015-33637*

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [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 - Simultaneous Dedication  
☐ NSL ☐ NSP ☐ SD

*G-22-235-30E*

Check One Only for [B] or [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

*Eddy / State*

[D] Other: Specify \_\_\_\_\_

[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

*4520' - 5780'*

*900 PSI*

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note:** Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

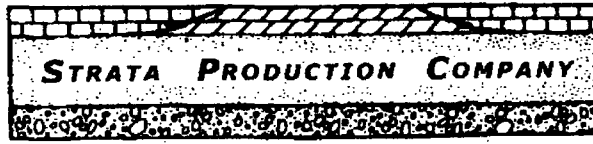
Signature

Title

Date

e-mail Address

POST OFFICE DRAWER 1030  
ROSWELL, NM 88202-1030



1301 NORTH SYCAMORE AVENUE  
ROSWELL, NEW MEXICO 88201  
www.stratanm.com

TELEPHONE (575) 622-1127  
FACSIMILE (575) 623-3533

RECEIVED OCD

2012 FEB -7 P 12:45

February 2, 2012

New Mexico Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

RE:

Application for Salt Water Disposal Well  
Forty Niner Ridge Unit #6  
Cherry Canyon Formation  
Unit O, Sec. 22, T23S-R30E  
Eddy County, NM

Gentlemen:

Strata Production Company requests administrative approval of the attached Form C-108 application for its Forty Niner Ridge Unit #6 well for the purpose of disposing of produced water into the non-commercial Cherry Canyon interval. This project will allow Strata to dispose of produced water that is anticipated from our continued development of the Forty Niner Ridge Delaware Field. The proposed disposal well will lower the current economic limit on each producing well and ultimately allow Strata to recover additional oil and gas reserves that would otherwise be left in place.

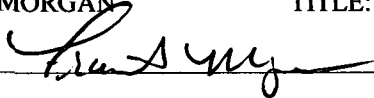
Strata requests that this application be approved administratively, or through an NMOCD sponsored hearing scheduled at the earliest possible date. If you have any questions concerning the application, please contact me at (575) 622-1127.

Regards,

Frank S. Morgan  
Vice-President

Attachments  
File

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage  
Application qualifies for administrative approval? ☒ Yes ☐ No
- II. OPERATOR: STRATA PRODUCTION COMPANY  
ADDRESS: PO DRAWER 1030, ROSWELL, NM 88202
- CONTACT PARTY: FRANK MORGAN PHONE: 575-622-1127 EXT-14
- 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 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: FRANK MORGAN TITLE: VICE PRESIDENT
- SIGNATURE:  DATE: 02/02/2012
- E-MAIL ADDRESS: fmorgan@stratanm.com
- \* 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: \_\_\_\_\_

### 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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, 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.

## INJECTION WELL DATA SHEET

OPERATOR: STRATA PRODUCTION COMPANY

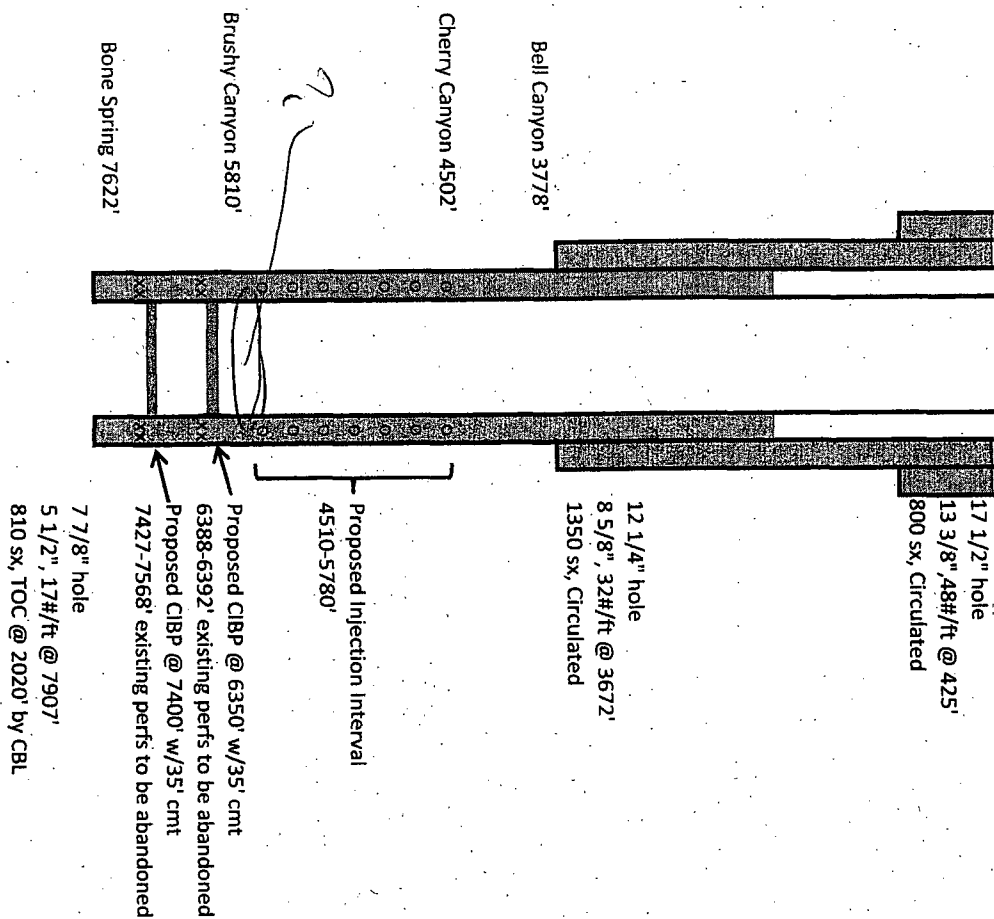
WELL NAME &amp; NUMBER: FORTY NINER RIDGE UNIT #6

WELL LOCATION: 990' FSL &amp; 2050' FEL

FOOTAGE LOCATION

UNIT LETTER

SECTION 22 TOWNSHIP 23S RANGE 30E

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 17.5"

Casing Size: 13 3/8"

Cemented with: 800 sx.

or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: CIRC

Method Determined: \_\_\_\_\_

Intermediate Casing

Hole Size: 12 1/4"

Casing Size: 8 5/8"

Cemented with: 1350 sx.

or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: CIRC

Method Determined: \_\_\_\_\_

Production Casing

Hole Size: 7 7/8"

Casing Size: 5 1/2"

Cemented with: 810 sx.

or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: 2020'

Method Determined: Cement Bond Log

Total Depth: 7900'

Injection Interval

4510 feet to 5780 feet

Perforated 4510-4550', 4620-4650', 4690-4710', 4750-4780', 4870-4910', 4990-5040', 5130-5170', 5370-5440', 5460-5510', 5520-5600', 5640-5670', 5720-5740', 5750-5780'

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8"

Lining Material: Plastic

Type of Packer: Nickel plated 5 1/2" Arrow Type "H"

Packer Setting Depth: ~ 4400'

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data1. Is this a new well drilled for injection? \_\_\_\_\_ Yes ☒ No

If no, for what purpose was the well originally drilled? Oil Well \_\_\_\_\_

2. Name of the Injection Formation: Cherry Canyon

3. Name of Field or Pool (if applicable): Forty Niner Ridge

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

Perforations and proposed plugging detail:

7427-7568' CIBP @ ~7400' w/35' CMT, 6388-6392' CIBP @ ~6350' w/35' CMT

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

Delaware 6388 – 7568'







# Form C-108 VII. Chemical Analysis of Produced Water for Disposal

## Analysis performed by Permian Treating Chemicals

### SAMPLE

Oil Co. : Strata Production  
Lease : Forty Niner Ridge  
Well No.: SWD  
Location:  
Attention:

Date Sampled : 13-July-2004  
Date Analyzed: 28-July-2004  
Lab ID Number: Jul2804.001- 1  
Salesperson :

File Name : F:\ANALYSES\JUL2804.001

### ANALYSIS

1. Ph 4.610
2. Specific Gravity 60/60 F. 1.203
3. CAC03 Saturation Index @ 80F 1.511  
@140F 1.511

#### Dissolved Gasses

4. Hydrogen Sulfide Not Present
5. Carbon Dioxide Not Determined
6. Dissolved Oxygen Not Determined

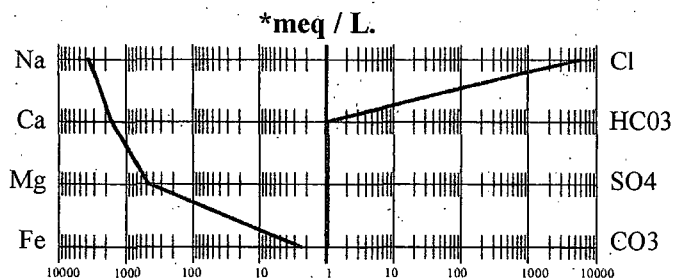
#### Cations

- |              |                    |        |          |          |
|--------------|--------------------|--------|----------|----------|
| 7. Calcium   | (Ca++)             | 31,663 | / 20.1 = | 1,575.27 |
| 8. Magnesium | (Mg++)             | 5,531  | / 12.2 = | 453.36   |
| 9. Sodium    | (Na+) (Calculated) | 80,325 | / 23.0 = | 3,492.39 |
| 10. Barium   | (Ba++)             | 14     | / 68.7 = | 0.20     |

#### Anions

- |                                      |         |                    |          |          |
|--------------------------------------|---------|--------------------|----------|----------|
| 11. Hydroxyl                         | (OH+)   | 0                  | / 17.0 = | 0.00     |
| 12. Carbonate                        | (CO3=)  | 0                  | / 30.0 = | 0.00     |
| 13. Bicarbonate                      | (HCO3-) | 54                 | / 61.1 = | 0.88     |
| 14. Sulfate                          | (SO4=)  | 41                 | / 48.8 = | 0.84     |
| 15. Chloride                         | (Cl-)   | 195,956            | / 35.5 = | 5,519.89 |
| 16. Total Dissolved Solids           |         | 313,584            |          |          |
| 17. Total Iron                       | (Fe)    | 41                 | / 18.2 = | 2.23     |
| 18. Total Hardness as CaCO3          |         | 101,841            |          |          |
| 19. Resistivity @ 75 F. (Calculated) |         | 0.001 Ohm · meters |          |          |

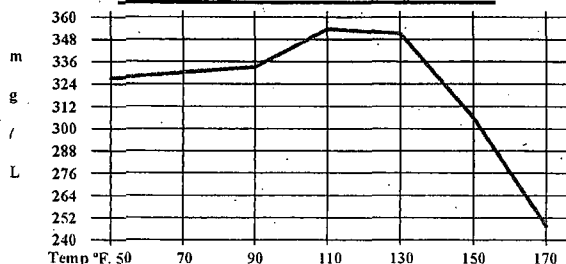
### LOGARITHMIC WATER PATTERN



### PROBABLE MINERAL COMPOSITION

| COMPOUND  | EQ. WT. | X        | *meq/L = | mg/L.   |
|-----------|---------|----------|----------|---------|
| Ca(HCO3)2 | 81.04   | 0.88     |          | 72      |
| CaSO4     | 68.07   | 0.64     |          | 43      |
| CaCl2     | 55.50   | 1,573.75 |          | 87,343  |
| Mg(HCO3)2 | 73.17   | 0.00     |          | 0       |
| MgSO4     | 60.19   | 0.00     |          | 0       |
| MgCl2     | 47.62   | 453.36   |          | 21,589  |
| NaHCO3    | 84.00   | 0.00     |          | 0       |
| NaSO4     | 71.03   | 0.00     |          | 0       |
| NaCl      | 58.46   | 3,492.77 |          | 204,188 |

### Calcium Sulfate Solubility Profile



**Form C-108 XI. Fresh Water Well Analysis**

Analysis Performed by Baker Hughes

| <b>Lease<br/>Location</b> | <b>Forty Niner Ridge<br/>Mobley F/W Station<br/>~2 mile NW of FNRU#6</b> | <b>Forty Niner Ridge<br/>Mills F/W Station<br/>~1mile north of FNRU#6</b> |
|---------------------------|--|---|
| <b>Date Out</b>           | 1/31/2012  | 1/31/2012   |
| <b>Sample Date</b>        | 1/27/2012  | 1/27/2012   |
| <b>Specific Gravity</b>   | 1.00   | 1.00  |
| <b>Ionic Strength</b>     | 0.04   | 0.02  |
| <b>TDS</b>                | 3820.34  | 2297.85   |
| <b>pH</b>                 | 7.10   | 7.20  |
| <b>Ca (mg/L)</b>          | 603.00   | 370.00  |
| <b>Mg (mg/L)</b>          | 155.00   | 78.00   |
| <b>TH (CaCO3)</b>         | 2156.23  | 1251.86   |
| <b>Na (mg/L)</b>          | 377.00   | 114.00  |
| <b>K (mg/L)</b>           | 14.50  | 5.40  |
| <b>Fe (mg/L)</b>          | 0.12   | 4.90  |
| <b>Ba (mg/L)</b>          | 0.06   | 0.04  |
| <b>Sr (mg/L)</b>          | 8.85   | 4.80  |
| <b>Mn (mg/L)</b>          | 0.01   | 0.11  |
| <b>HCO3 (mg/L)</b>        | 48.80  | 36.60   |
| <b>CO3 (mg/L)</b>         | 0.00   | 0.00  |
| <b>SO4 (mg/L)</b>         | 1900.00  | 1450.00   |
| <b>Cl (mg/L)</b>          | 713.00   | 234.00  |
| <b>CO2 (mg/L)</b>         | 0.00   | 0.00  |
| <b>H2S (mg/L)</b>         | 0.00   | 0.00  |
| <b>Temp (F)</b>           | 100  | 100   |

February 2, 2012

## **NEW MEXICO OIL CONSERVATION DIVISION – FORM C-108**

### **V. SUBJECT AREA MAPS AND AREA OF REVIEW**

A map including the Forty Niner Ridge #6 lease, including all wells and leases within a 2 mile radius is attached. Also notated on the map is the subject well's area of review, or ½ mile radius circle.

### **VI. TABULATION OF DATA ON WELLS WITHIN THE AREA OF REVIEW**

There are no wells within a ½ mile radius of the proposed injection well.

### **VII. PROPOSED OPERATION**

Currently Strata Production Company operates the Forty Niner Ridge Unit, the Sandy Federal and Roadrunner Federal leases, all located in T23S-R30E and producing from the Forty Niner Ridge Delaware pool. The proposed well will be converted as soon as possible to facilitate water disposal from current and future wells in the area in which Strata has an interest. Approval of this application will enhance Strata's efforts to operate the subject leases as optimally as possible and increase recoverable reserves by lowering the economic limit on the producing wells.

The proposed completion will be in the Cherry Canyon formation with perforations between 4510 – 5780'. The packer will be ~ 100' above the top perforation and the tubing will be internally plastic coated. The average disposal rate is expected to be 1500 BWPD and the maximum is expected to be 2500 BWPD. The average injection pressure is expected to be 500 psig and the maximum injection pressure will not exceed 900 psig (0.2 psi/ft) until a step rate test establishes a higher limit. The produced water to be injected has total dissolved solids (TDS) and salinity above 10,000 ppm (mg/l). A chemical analysis of the water to be disposed is attached. The system will be closed.

### **VIII. GEOLOGIC DATA**

The injection interval consists of an interbedded, fine to medium grain sorted sandstone reservoir. The reservoir shows a low oil saturation which is non-mobile,

making the formation non-commercial. The Cherry Canyon interval has a total thickness of approximately 1310' in the subject area and it overlays the Brushy Canyon and Bone Spring intervals, which are the main productive intervals within the subject area.

The known sources of fresh water in the subject area exist from approximately 120' to 400' deep in windmills/shallow wells that are approximately 250' deep. Based on current geological and engineering data and a petrophysical rock properties evaluation, there is no evidence of any natural or artificially created open faults within the injection interval, or above, which would communicate salt water to the shallow fresh water strata.

#### **IX. PROPOSED STIMULATION PROGRAM**

The new perforations from 4510 – 5780' will be acidized with 10,000 gal 15% NEFE acid. The injection performance will be evaluated and if warranted, a frac will be designed at a later time.

#### **X. WELL LOGS HAVE PREVIOUSLY BEEN FILED WITH THE DIVISION**

#### **XI. FRESH WATER ANALYSIS ARE ATTACHED**

#### **XII. AFFIRMATIVE STATEMENT INCLUDED IN PARAGRAPH X ABOVE**

#### **XIII. SURFACE OWNER AND OFFSET OPERATORS – PROOFS OF NOTICE ATTACHED**

##### **SURFACE OWNER**

Bureau of Land Management  
620 E Greene St  
Carlsbad, NM 88220

##### **OFFSET OPERATORS OR MINERAL INTEREST LEASEES:**

ConocoPhillips Co  
PO Box 7500  
Bartlesville, OK 74005

OXY USA Inc.  
5 Greenway Plaza  
Suite 110  
Houston, TX 77046

Devon Energy Prod Co LP  
20 N Broadway #1500  
Oklahoma City, OK 73102

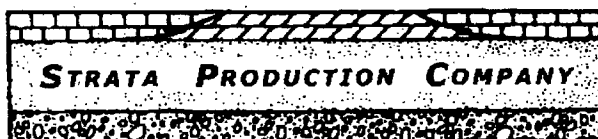
Khody Land & Minerals Co  
3817 NW Expressway  
Suite 950  
Oklahoma City, OK 73112

Aquila Energy Resources  
10370 Richmond Ave  
Houston, TX 77042

COG Operating LLC  
550 West Texas  
Suite 100  
Midland, TX 79701

Exxon Mobil Corp  
PO Box 4358  
Houston, TX 77210

POST OFFICE DRAWER 1030  
ROSWELL, NM 88202-1030



TELEPHONE (575) 622-1127  
FACSIMILE (575) 623-3533

1301 NORTH SYCAMORE AVENUE  
ROSWELL, NEW MEXICO 88201  
[www.stratanm.com](http://www.stratanm.com)

## FORM C-108 XIV. PROOF OF NOTICE

February 1, 2012

RE:

Application for Salt Water Disposal Well  
Forty Niner Ridge Unit #6  
Cherry Canyon Formation  
Unit O, Sec. 22, T23S-R30E  
Eddy County, NM

Gentlemen:

Attached is Strata Production Company's application for the Forty Niner Ridge Unit #6 well to be converted to salt water disposal well. You are either a surface owner or Lessee located within ½ mile of the subject well.

You may file an objection to the application or request a public hearing. Any objection or request for hearing must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days from the receipt of this notification. If you have any questions please contact:

Strata Production Company  
Frank Morgan  
575-622-1127

# FORM C-108 XIV. PROOF OF NOTICE

|                       |  |   |
|-----------------------|--|---|
| Confirmation Services | Package ID: 9171082133393556254250<br>Destination ZIP Code: 77042<br>Customer Reference:<br>Recipient: <u>Hquila Energy Resources</u><br>Address: <u>10370 Richmond Ave</u><br><u>Houston TX 77042</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|-----------------------|--|---|

|                       |  |   |
|-----------------------|--|---|
| Confirmation Services | Package ID: 9171082133393556254267<br>Destination ZIP Code: 88220<br>Customer Reference:<br>Recipient: <u>BLM</u><br>Address: <u>1030 E. Green St.</u><br><u>Clarksburg NM 88220</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|-----------------------|--|---|

|                       |   |   |
|-----------------------|---|---|
| Confirmation Services | Package ID: 9171082133393556254274<br>Destination ZIP Code: 73102<br>Customer Reference:<br>Recipient: <u>Devon Energy Prod. Corp</u><br>Address: <u>20 N. Broadway #1500</u><br><u>Oklahoma City, OK 73102</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|-----------------------|---|---|

|                       |   |   |
|-----------------------|---|---|
| Confirmation Services | Package ID: 9171082133393556254281<br>Destination ZIP Code: 79701<br>Customer Reference:<br>Recipient: <u>UGS Operating LLC</u><br>Address: <u>Midland TX 79701</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|-----------------------|---|---|

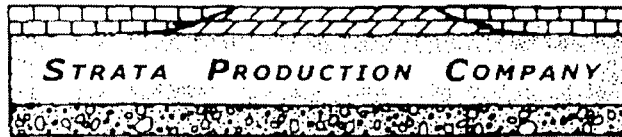
|                |   |   |
|----------------|---|---|
| USPS® Services | Package ID: 9171082133393556254212<br>Destination ZIP Code: 74005<br>Recipient:<br>Address: <u>Conoco Phillips Corp</u><br><u>PO Box 7500</u><br><u>PLA Bartlesville OK 74005</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|----------------|---|---|

|                       |   |   |
|-----------------------|---|---|
| Confirmation Services | Package ID: 9171082133393556254229<br>Destination ZIP Code: 73112<br>Customer Reference:<br>Recipient: <u>Khoddy Land Minerals</u><br>Address: <u>3817 NW Evansway St</u><br><u>Oklahoma City, OK 73112</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|-----------------------|---|---|

|                       |  |   |
|-----------------------|--|---|
| Confirmation Services | Package ID: 9171082133393556254236<br>Destination ZIP Code: 77210<br>Customer Reference:<br>Recipient: <u>Exxon Mobil Corp</u><br>Address: <u>Box 4358</u><br><u>Houston, TX 77210</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|-----------------------|--|---|

|                       |   |   |
|-----------------------|---|---|
| Confirmation Services | Package ID: 9171082133393556254243<br>Destination ZIP Code: 77046<br>Customer Reference:<br>Recipient: <u>OXY USA Inc</u><br>Address: <u>Houston TX 77046</u><br>FEB 01 2012 10:47A | E-CERTIFIED<br>1ST CLASS FLAT<br>PBP Account #: 45390465<br>Serial #: 3171289 |
|-----------------------|---|---|

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TELEPHONE (575) 622-1127  
FACSIMILE (575) 623-3533

1301 NORTH SYCAMORE AVENUE  
ROSWELL, NEW MEXICO 88201  
www.stratanm.com

March 9, 2012

Mr. Dan Morehouse  
Mine Engineering Superintendent  
Mosaic Potash Carlsbad, Inc  
PO Box 71  
Carlsbad, NM 88220

|                          |  |  |
|--------------------------|--|--|
| Confirmation<br>Services | Package ID: 9171082133393556254342   | E-CERTIFIED                            |
|                          | Destination ZIP Code: 88220  | 1ST CLASS FLAT                         |
|                          | Customer Reference:  |  |
|                          | Recipient: <u>Dan Morehouse</u>  | PBP Account #: 45390455                |
|                          | Address: <u>Mine Engineering Superintendent</u><br><u>Mosaic Potash Carlsbad, Inc.</u><br><u>Box 71</u><br><u>Carlsbad, NM 88220</u> | Serial #: 3171238<br>MAR 08 2012 4:36P |

Re: Conversion to Salt Water Disposal  
Forty Niner Ridge Unit #6  
Unit O, Sec. 22, T23S-R30E  
Eddy County, NM

Dear Mr. Morehouse,

Attached is Strata Production Company's application for the Forty Niner Ridge Unit #6 well to be converted to salt water disposal well. The Oil Conservation Division has requested that you receive a notice of the application. You may file an objection to the application or request a public hearing. Any objection or request for hearing must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days from the receipt of this notification.

The BLM and all other parties requiring notification have not objected. To expedite our administrative approval, if Mosaic does not object to the application would you please sign this waiver and forward it to:

New Mexico Oil Conservation Division  
Attn: William V Jones  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Please contact me if you have any questions or require additional information.

Regards,

David Lanning  
Consulting Engineer

Mosaic Potash Carlsbad, Inc hereby waives any objection to this application

DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2012

BY: \_\_\_\_\_ TITLE: \_\_\_\_\_



**Affidavit of Publication**

NO. 22005

STATE OF NEW MEXICO

County of Eddy:

Danny Scottbeing duly sworn, says that he is the Publisher

of the Artesia Daily Press, a daily newspaper of general  
circulation, published in English at Artesia, said county  
and state, and that the hereto attached

**Legal Notice**

was published in a regular and entire issue of the said  
Artesia Daily Press, a daily newspaper duly qualified  
for that purpose within the meaning of Chapter 167 of  
the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/days on the same  
day as follows:

First Publication February 2, 2012

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Subscribed and sworn to before me this

2nd day of February 2012



OFFICIAL SEAL  
Latisha Romine  
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2015

Latisha Romine  
Latisha Romine  
Notary Public, Eddy County, New Mexico

**Copy of Publication:****LEGAL NOTICE****APPLICATION FOR WATER DISPOSAL**

Strata Production Company, PO Drawer 1030, Roswell, NM 88202-1030, (Contact Frank Morgan, 575-622-1127), has filed an Application with the Oil Conservation Division, Energy, Minerals and Natural Resources Department, State of New Mexico, for Administrative Approval and authority to inject salt water into the Forty Niner Ridge Unit #6 well located 990' FSL & 2050' FEL of Section 22, Township 23 South, Range 30 East, NMPM, Eddy County, New Mexico.

The purpose of the water injection well is to dispose of salt water produced from the Forty Niner Ridge Delaware field as currently designated by the Oil Conservation Division and as may be extended by additional drilling.

Water to be disposed of will be injected into the Cherry Canyon formation of the Delaware Mountain group at an interval between 4510 feet to 5780 feet beneath the surface.

The maximum injection rate is expected to be approximately 2500 barrels of water per day and the maximum pressure is expected to be approximately 900 PSI.

Any interested party may file an objection to the Application or may request a public hearing. Any objection or request for hearing must be filed with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days from the date of publication.

Strata Production Company

By: Frank Morgan

PO Drawer 1030

Roswell, NM 88202-1030

575-622-1127

Published in the Artesia Daily Press, Artesia, N.M., Feb. 2, 2012. Legal No 22005.

**Jones, William V., EMNRD**

---

**From:** Ingram, Wesley W [wingram@blm.gov]  
**Sent:** Monday, February 06, 2012 7:57 AM  
**To:** Jones, William V., EMNRD  
**Subject:** Forty Niner Ridge Unit 6  
**Attachments:** Forty Niner Ridge Unit 6 020612.docx

Will,

Attached are my concerns regarding the conversion of this unit well to injection. The well's production is still in paying quantities and is the only well within the unit draining this area and the BLM will object based on that item even though the well is on a state lease.

Sincerely,  
Wesley W. Ingram  
Supervisory Petroleum Engineer  
Bureau of Land Management  
Carlsbad Field Office  
620 E. Greene Street  
Phone: 575-234-5982  
Fax: 575-234-5927

Forty Niner Ridge Unit 6 – convert to disposal.

1. The BLM will object to the conversion of this unit well as the most recent production reports show the well to be producing in paying quantities and there is no other well in the area to drain the acreage.
2. Strata Production Company is not the unit operator; they are the sub-operator of the Delaware Participating Area. Strata did not notice the unit operator.
3. The operator also needs to be made aware of the following regarding the unit.
  - a. The conversion of this well is not addressed in the Unit Plan of Development.
  - b. The operator is not current on paperwork for this unit well. The diagram shows perforations from 6388-6392'. BLM does not have any record of these perforations.
  - c. This is an exploratory unit, which means it covers all formations. Therefore, an SWD in the unit has to be tied to an existing PA and used for unit water disposal. It shall not be used for outside water disposal.
4. If this well were in Federal minerals, the BLM would not approve a fracture treatment for an SWD, particularly one in the potash.
5. Operator states that the oil in the formation is not mobile. Could the oil be produced with a horizontal completion?
6. The plug back of the well should include a Bone Spring plug.

WWI 020612



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Pecos District  
Carlsbad Field Office  
620 E. Greene  
Carlsbad, New Mexico 88220-6292  
www.blm.gov/nm



RECEIVED OCD

2012 FEB 13 A 7:37

IN REPLY REFER TO:  
3162.3-2 (P0220)  
NM70951C

**FEB - 8 2012**

Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Forty Niner Ridge Unit 6 – Convert to Salt Water Disposal.

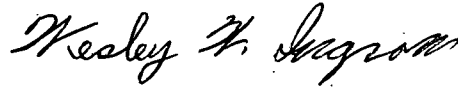
The BLM will object to the conversion of this Federal unit well as the most recent production reports show the well to be producing in paying quantities and there is no other well in the area to drain the acreage.

In addition, the Bureau of Land Management, Carlsbad Field Office states the following:

1. Strata Production Company is not the unit operator; they are the sub-operator of the Delaware Participating Area. There is no indication that Strata notified the unit operator of this proposal.
2. The operator also needs to be made aware of the following regarding the unit.
  - a. The conversion of this well is not addressed in the Unit Plan of Development.
  - b. The operator is not current on paperwork for this unit well. The diagram shows perforations from 6388-6392'. BLM does not have any record of these perforations.
  - c. This is an exploratory unit, which means it covers all formations. Therefore, an SWD in the unit has to be tied to an existing PA and used for unit water disposal. It shall not be used for outside water disposal.
3. If this well were in Federal minerals, the BLM would not approve a fracture treatment for an SWD, particularly one in the potash.
4. Operator states that the oil in the formation is not mobile. Operator should submit documentation that the oil could not be produced with a horizontal completion?
5. The plug back of the well should include a Bone Spring plug.

If you have any questions regarding this approval, please contact Wesley W. Ingram,  
Supervisory Petroleum Engineer at (575) 234-5982.

Sincerely,

A handwritten signature in black ink, appearing to read "Wesley W. Ingram". The script is cursive and fluid.

Wesley W. Ingram  
Supervisory Petroleum Engineer  
Bureau of Land Management  
Carlsbad Field Office

cc: Strata Production Co.

**Jones, William V., EMNRD**

---

**From:** Jones, William V., EMNRD  
**Sent:** Wednesday, February 08, 2012 4:29 PM  
**To:** 'rmorgan@stratam.com'  
**Cc:** Shapard, Craig, EMNRD; Shapard, Craig, EMNRD  
**Subject:** Disposal application from Strata Production Company: Forty Niner Ridge Unit #6 30-015-33637 Cherry Canyon from 4510 to 5780 feet perforated

Hello Frank,

The BLM indicated they have a list of concerns on this application.

Please work with Wesley Ingram or his people in Carlsbad and let me know when you have all issues worked out.

After all is worked out, I will review the application for any other issues.

Hope all is well,

Regards,

William V Jones, P.E.  
Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel: 505.476.3448 ~ Fax 505.476.3462



**Jones, William V., EMNRD**

---

**From:** David Lanning [dlanning@rocketmail.com]  
**Sent:** Monday, February 27, 2012 8:08 AM  
**To:** Jones, William V., EMNRD  
**Cc:** Mark Murphy; Frank Morgan; Wesley Ingram  
**Subject:** Re: Disposal application from Strata Production Company: Forty Niner Ridge Unit #6 30-015-33637 Cherry Canyon from 4510 to 5780 feet perforated

Will

Strata met with Wesley Ingram at BLM Carlsbad on Friday to address BLM's concerns regarding the referenced application. We had an excellent meeting and you will be receiving a copy of Strata's letter summarizing our discussions and then a followup letter from BLM. If there are any other issues please let us know.

Regards,  
David Lanning

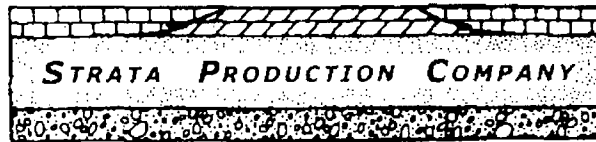
*David Lanning  
Oil & Gas Consulting  
1204 San Juan Dr  
Roswell, NM 88201  
575-365-8308*

**From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]  
**Sent:** Wednesday, February 08, 2012 4:29 PM  
**To:** fmorgan@stratannm.com  
**Cc:** Shapard, Craig, EMNRD; Shapard, Craig, EMNRD  
**Subject:** Disposal application from Strata Production Company: Forty Niner Ridge Unit #6 30-015-33637 Cherry Canyon from 4510 to 5780 feet perforated

Hello Frank,  
The BLM indicated they have a list of concerns on this application.  
Please work with Wesley Ingram or his people in Carlsbad and let me know when you have all issues worked out.  
After all is worked out, I will review the application for any other issues.

Hope all is well,

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www.stratanm.com

TELEPHONE (575) 622-1127  
FACSIMILE (575) 623-3533

RECEIVED OCD  
2012 FEB 27 A 11:34

February 24, 2012

Bureau of Land Management  
620 E Greene  
Carlsbad, NM 88220-6292

Re: Forty Niner Ridge Unit #6 – Convert to Salt Water Disposal  
3162.3-2 (P0220)  
NM70951C

Gentlemen:

Strata Production Company submits the following additional information regarding your objection letter to the referenced application.

Strata considers the FNRU #6 to be uneconomic and believes the conversion to SWD to be the best use of the wellbore at the current time. The producing interval will be isolated but not be permanently abandoned and therefore can be returned to production at a future time if warranted.

1. Strata has notified the Unit Operator, Chevron USA Inc, and the sub-operator of the Morrow Participating Area, Mewbourne Oil Company, of the application. Proof of notice is attached.
2. a) A draft of the updated 2012 Unit Plan of Development which addresses the application is attached.  
b) The perforations from 6,388-6,392' were reported timely to the Oil Conservation Division and we believe a copy was sent to the BLM office in Roswell. The Form C-103 is attached for you records.  
c) An initial Delaware Participating Area was established in 1995 and this area was expanded to the current 3,800 acre Delaware PA in 2006. It is our understanding that once a PA is established, a unit SWD well can take water from the unit and neighboring federal leases for the mutual economic



benefits and to minimize impacts to the area. Strata commits to utilize the disposal capacity of the #6 well for Unit water first and for outside water only if there is excess disposal capacity.

3. Strata has not proposed an initial fracture treatment and based on the performance of the Forty Niner Ridge #1 SWD does not anticipate one will be needed.
4. Based upon the development within and around the unit, there is no technical data that indicates that either the Bell Canyon or Cherry Canyon members of the Delaware contain commercial quantities of oil or natural gas in the Forty Niner Ridge #6 well.
5. Strata is agreeable to setting a plug above the Bone Spring interval.

If you have any other questions or concerns do not hesitate to contact us at 575-622-1127.

Regards,

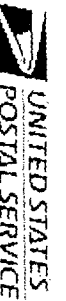
A handwritten signature in black ink, appearing to read "David Lanning", written in a cursive style.

David Lanning  
Consulting Engineer

Attachments

cc: NMOCD

*Shirley*  
Delivery Status



Here is the detailed status of the shipment you are tracking. Check all of the information carefully. If there appears to be a problem with your shipment, contact the carrier directly.

Account Number: 45390465

Carrier: USPS

Tracking Number: 9171082133393556254311

Status: Delivered

*Chelton U.S.A. Inc*  
*Box 3634*  
*Houston, TX 77034*

**SENDER: COMPLETE THIS SECTION**

- ☒ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- ☒ Print your name and address on the reverse so that we can return the card to you.
- ☒ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

*Newbourne Oil Company*  
*500 W. Texas Ave.*  
*Suite 1020*  
*Midland, TX 79701*

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

*[Handwritten Signature]*

☐ Agent

☐ Addressee

B. Received by (Printed Name)

*[Handwritten Name]*

C. Date of Delivery

*2-13*

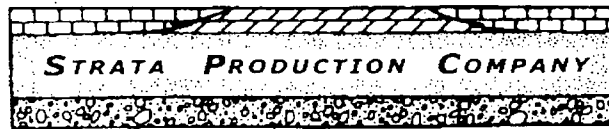
D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Certified Mail
- ☐ Registered
- ☐ Insured Mail
- ☐ Express Mail
- ☐ Return Receipt for Merchandise
- ☐ C.O.D.

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ROSWELL, NEW MEXICO 88201  
[www.stratanm.com](http://www.stratanm.com)

DRAFT

February 24, 2012

Mr. James E. Baca, CPL  
Staff Land Representative  
Chevron Texaco  
15 Smith Road  
Midland, Texas 79705

Re: Forty Niner Ridge Unit (the "FNR Unit") Eddy County, New Mexico  
Plan of Operations 2012

Dear Mr. Baca,

Chevron is the designated Operator of the FNR Unit with Strata Production Company ("Strata") being the Sub-Operator of the Delaware formation (see enclosed Map of Delaware Formation Participating Area) and Mewbourne being the Sub-Operator of the Morrow formation. The following sets forth Strata's, as Sub-Operator of the FNR Unit Delaware formation, proposed Plan of Operations for 2012 for BLM review and approval.

Strata Production Company ("Strata") as Sub-Operator of the Delaware Formation respectfully submits this Plan of Operations for the continued development of potential oil and gas reserves located in the Delaware Formation on the subject unitized land.

I. Review of Unit Development

The following Unit wells have been drilled, completed, and/or recompleted in the Delaware Formation. In addition, Strata proposes to drill and complete, if warranted, three (3) additional horizontal wells (i.e. #15, #16 and #17) beginning in late 2012 or 2013.

| Well Name Number | Location    | API#         | Completion Date | Current Production Interval | Status        |
|------------------|-------------|--------------|-----------------|-----------------------------|---------------|
| FNR Unit #1      | J-16-23-30  | 30-015-20899 | 12-06-1973      | N/A                         | SWD – Vert.   |
| FNR Unit #2      | G-21-23-30  | 30-015-21175 | 11-23-1974      | Delaware                    | Prod – Vert.  |
| FNR Unit #3      | F-16-23-30  | 30-015-25454 | 01-31-1988      | Delaware                    | Prod – Vert.  |
| FNR Unit #4      | I-21-23-30  | 30-015-33743 | 04-21-2005      | Delaware                    | Prod – Vert.  |
| FNR Unit #6      | O-22-23-30  | 30-015-33637 | 04-28-2005      | Delaware                    | Prod – Vert.  |
| FNR Unit #9      | N-10-23-30  | 30-015-35008 | 06-08-2008      | Delaware                    | Prod – Horiz. |
| FNR Unit #13     | N-10-23-30  | 30-015-38562 | 12-19-2011      | Delaware                    | Prod – Horiz. |
| FNR Unit #14     | N-10-213-30 | 30-015-38563 | 12-27-2011      | Delaware                    | Prod – Horiz. |

Since Strata assumed the duties of Sub Operator we have converted the FNR Unit #1 for purposes of produced water disposal (SWD), installed three phase electrical service, and constructed gas gathering for purposes of Unit use and sales. A map of Unit facilities including roads, flow lines, and electrical lines is enclosed. Strata also conducted a high resolution 3-D seismic shoot and collected data throughout the Unit. Based upon the 3-D seismic survey data a Bone Spring Structure Map is enclosed. The structure dips to the east at approximately 70 to 100 feet per mile. Stratigraphically, the “Upper L” and “K-2” intervals (see enclosed Seismic Anomaly Maps) appear to be productive throughout the Unit. In addition, there are multiple known producing intervals in the lower and middle

Brushy Canyon member of the Delaware Formation. Based upon the development within and around the unit, there is no technical data that indicates that either the Bell or Cherry Canyon members of the Delaware Formation contain commercial quantities of oil and natural gas.

Strata has performed workovers on the FNR Unit Well #2 and #3, and has drilled and completed two (2) vertical wells (#4 and #6) and three (3) horizontal wells (i.e. #9, #13 and #14). In addition, Strata has recently completed new zones in the existing well #9 lateral, heel and vertical section. Production Decline Curves for each producing well are enclosed.

- II. Proposed Development Activity 2012: Based upon the development activity to date and the available technical data, especially the 3-D seismic, it appears that additional development potential may exist within the FNR Unit. Strata is in the process of preparing four (4) additional APDs for submittal to the BLM, #15, #16, #17 (drilled from the #9 location) and #12 (drilled from the #6 location). If approved and supported by the technical data, Strata intends to drill these four (4) wells sometime in late 2012 or 2013 dependent upon oil and gas prices and rig and equipment availability. In addition, Strata has identified seven (7) additional potential deviated/horizontal well locations. If approved these wells could be drilled in 2013 and beyond.

Strata intends to convert the #6 well to SWD. This well is noneconomic and does not have any workover or recompletion potential. This well will provide disposal capacity

for Strata's Unit Delaware wells, Mewbourne's Unit Morrow wells and Unit wells which Chevron, Mewbourne and Strata anticipate being drilled and completed in the Bone Spring formation. This additional disposal capacity will extend the economic life and viability of the existing and anticipated wells and will allow development to proceed in an orderly and economic manner.

III. Review of Area Activity

Strata periodically reviews available information regarding any wells drilled near the FNR Unit. This information indicates that additional testing may be warranted in the Atoka, Morrow, and Bone Spring formations.

If you require additional information or wish to discuss Strata's activities please contact me at 505-622-1127 Ext. 12.

Sincerely,

Mark B. Murphy  
President

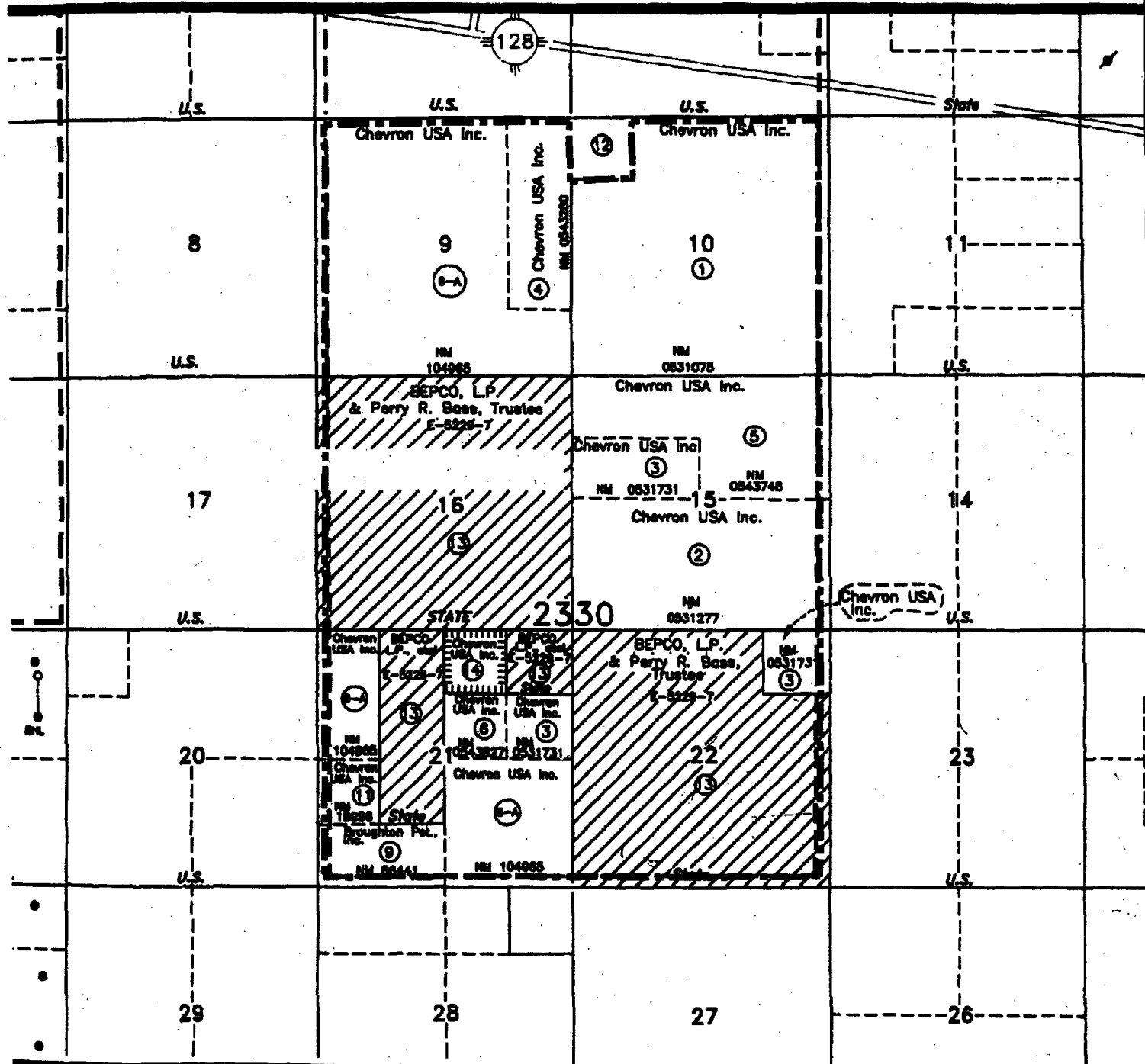
MBM/cdr





Enclosures: Map of Delaware Formation Participating Area  
Unit Roads and Facilities Map  
Production Decline Curves for Wells #2, #3, #4, #6, #9, #13, and #14  
Bone Spring Formation Structure Map  
"Upper L" Interval Seismic Anomaly Map  
"K-2" Interval Seismic Anomaly Map

cc: BLM Carlsbad Office  
Jo McInerney - Strata Land Department  
Mewbourne

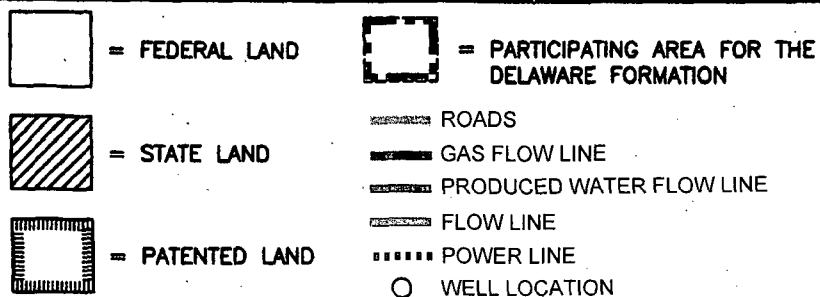
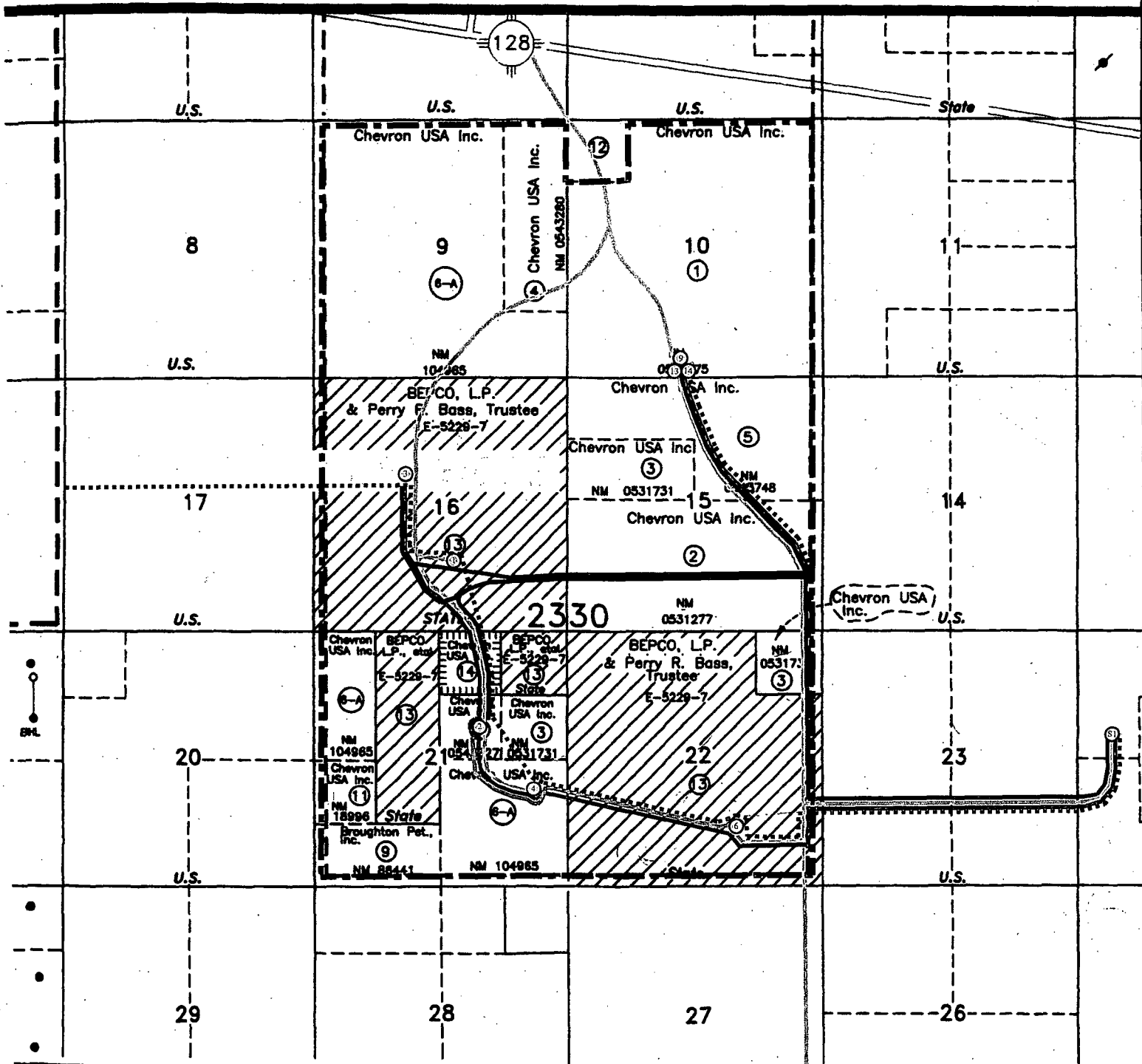
# MAP OF DELAWARE FORMATION PARTICIPATING AREA

FORTY-NINER RIDGE UNIT AREA  
DELAWARE PARTICIPATING AREA  
T-23-S, R-30-E, N.M.P.M.  
EDDY COUNTY, NEW MEXICO



-  - FEDERAL LAND
-  - PARTICIPATING AREA FOR THE DELAWARE FORMATION
-  - STATE LAND
-  - PATENTED LAND

FORTY-NINER RIDGE UNIT AREA  
 DELAWARE PARTICIPATING AREA  
 T-23-S, R-30-E, N.M.P.M.  
 EDDY COUNTY, NEW MEXICO





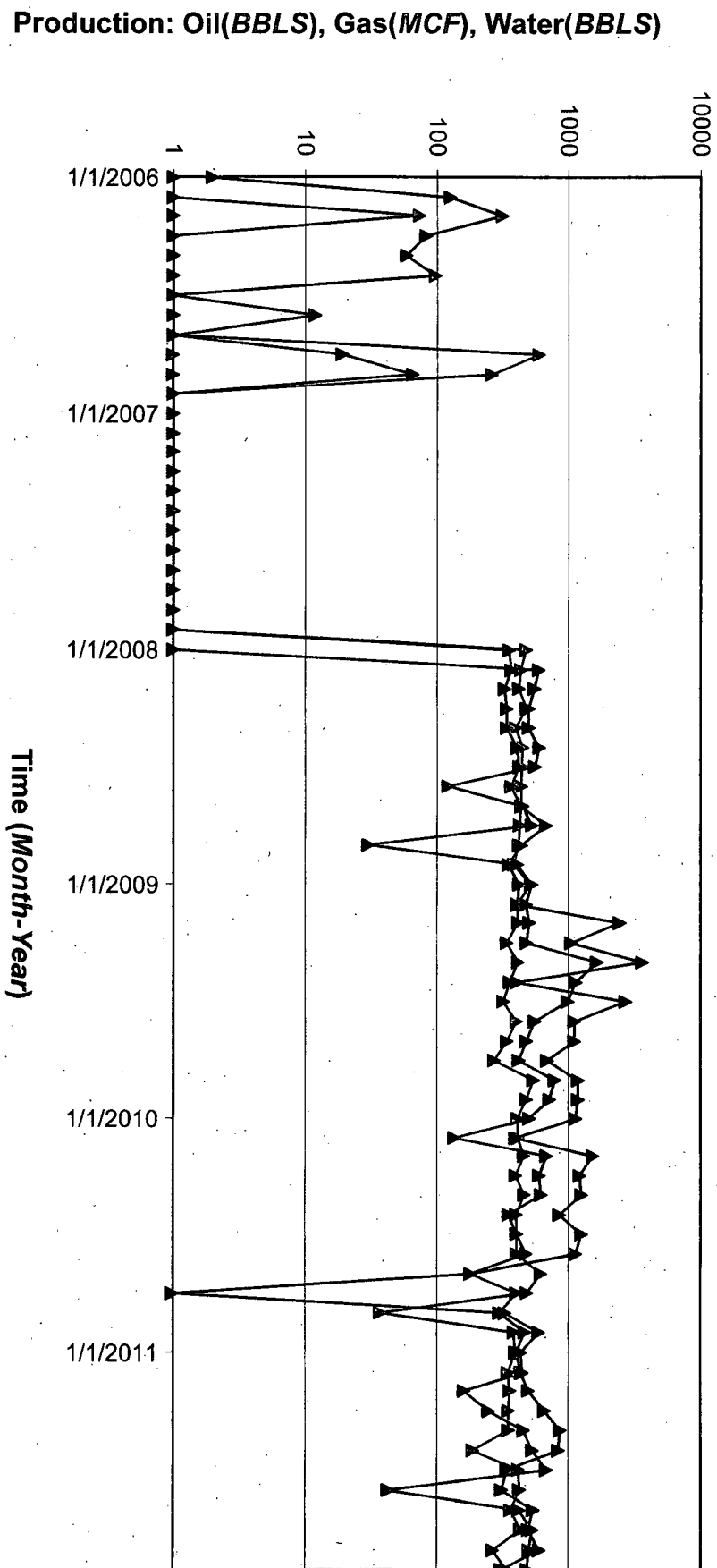
# Oil & Gas Production Logarithmic Curve of Well:

## FORTY NINER RIDGE UNIT # 002

To make log function continuous, those production data points with value 0 are all set to 1

—▲— Oil —▲— Gas —▲— Water

Total Production  
Oil: 0  
Gas: 0  
Water: 0  
Days Produced: 0



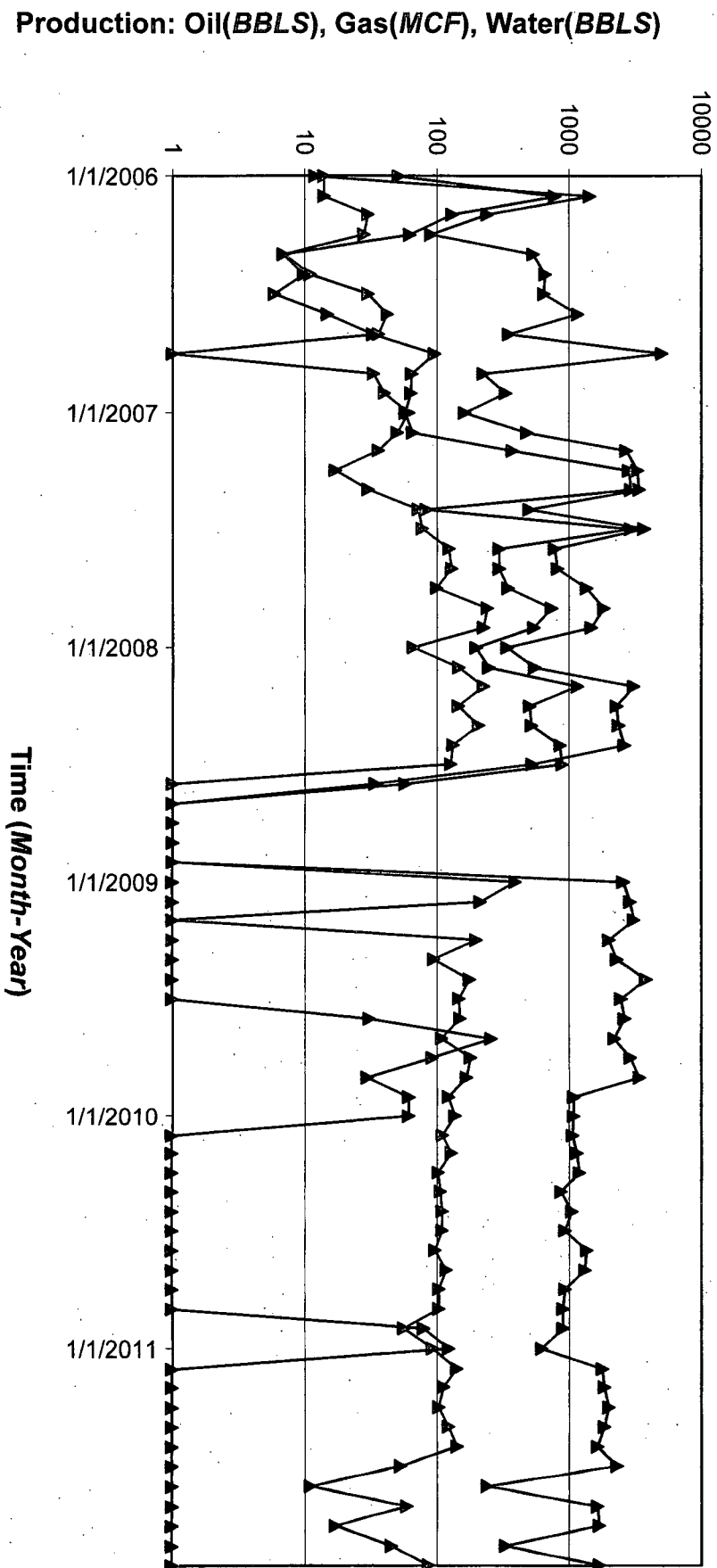
# Oil & Gas Production Logarithmic Curve of Well:

## FORTY NINER RIDGE UNIT # 003

To make log function continuous, those  
production data points with value 0 are all set to 1

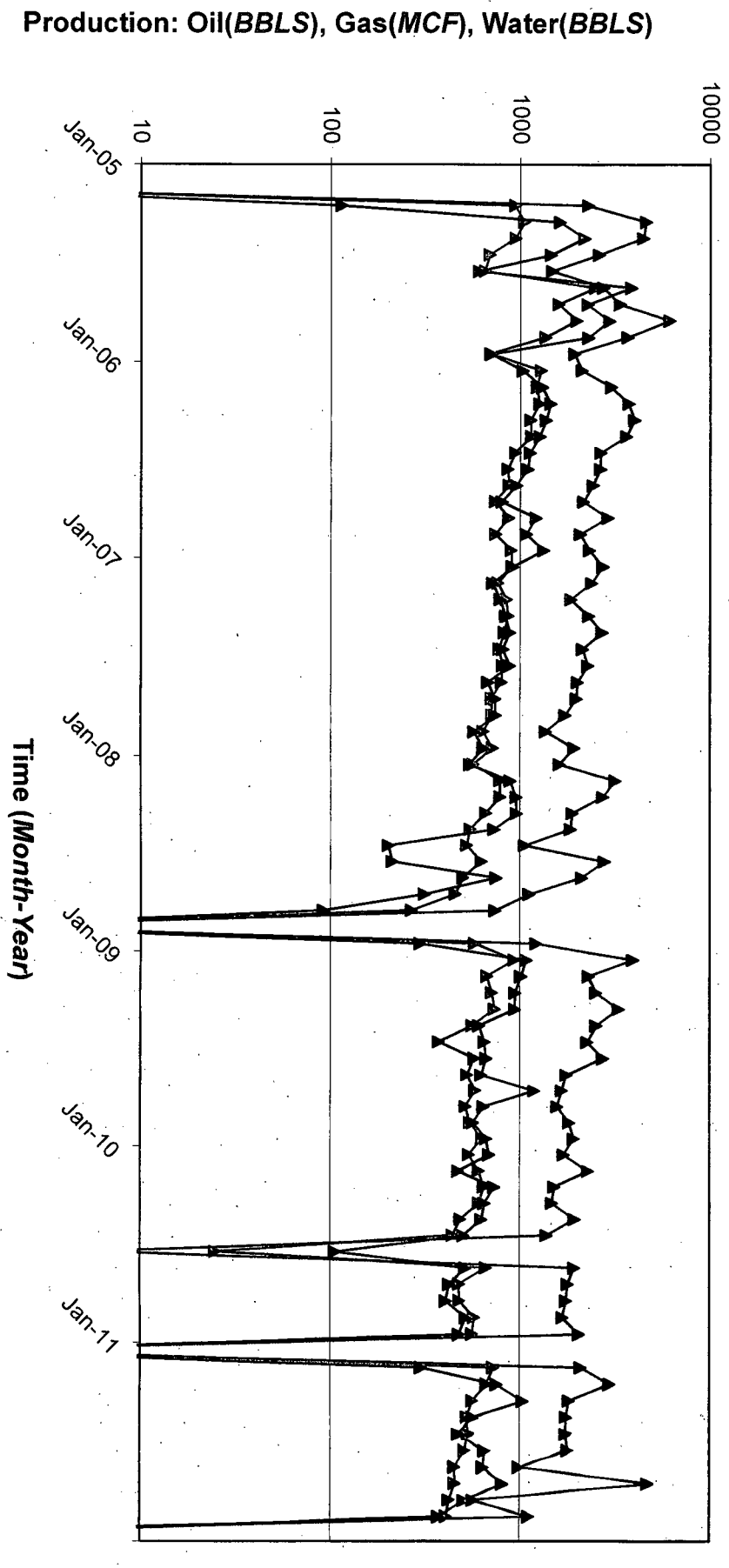
Oil Gas Water

Total Production  
Oil: 0  
Gas: 0  
Water: 0  
Days Produced: 0



# Oil & Gas Production Logarithmic Curve of Well:

## FORTY NINER RIDGE UNIT # 004



# Oil & Gas Production Logarithmic Curve of Well:

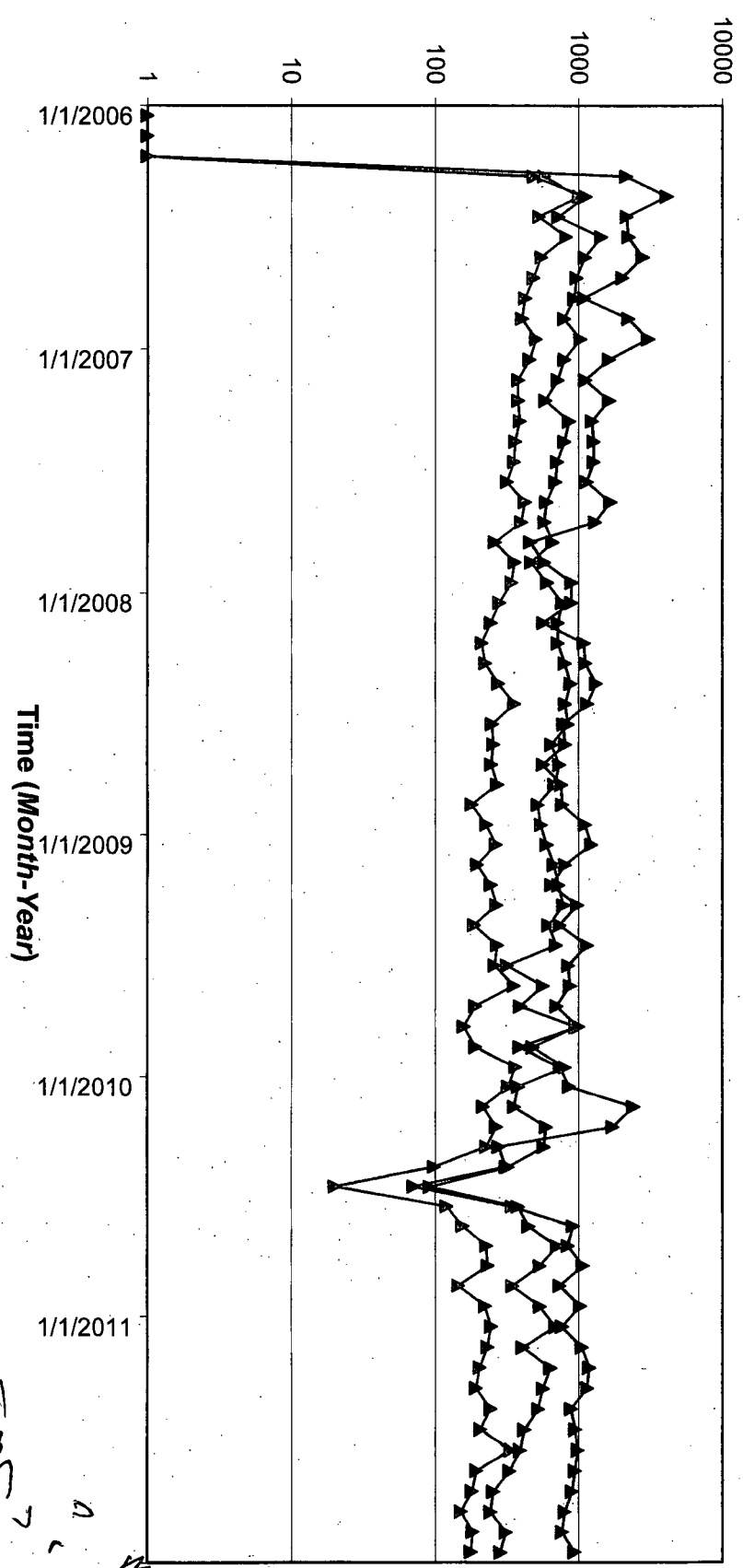
## FORTY NINER RIDGE UNIT # 006

To make log function continuous, those production data points with value 0 are all set to 1

Oil Gas Water

Total Production  
Oil: 0  
Gas: 0  
Water: 0  
Days Produced: 0

Production: Oil(BBLS), Gas(MCF), Water(BBLS)



WATER Instead is TENS?

Monthly or DAILY? WFF CH 2 or 1000?

# Oil & Gas Production Logarithmic Curve of Well:

## FORTY NINER RIDGE UNIT # 009

To make log function continuous, those  
production data points with value 0 are all set to 1

—▲— Oil —▲— Gas —▲— Water

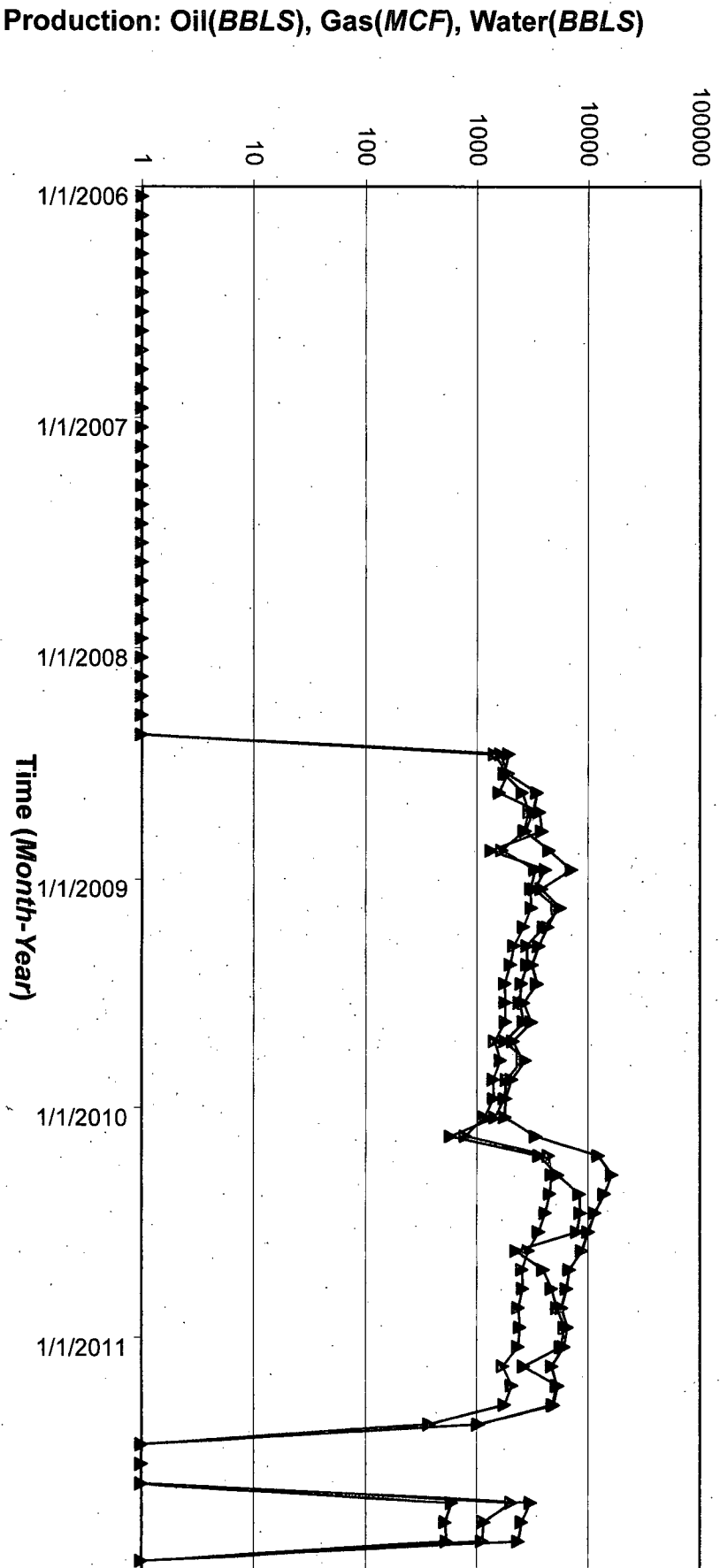
Total Production

Oil: 0

Gas: 0

Water: 0

Days Produced: 0



# Oil & Gas Production Logarithmic Curve of Well:

## FORTY NINER RIDGE UNIT # 013H

To make log function continuous, those  
production data points with value 0 are all set to 1

—▲— Oil —▲— Gas —▲— Water

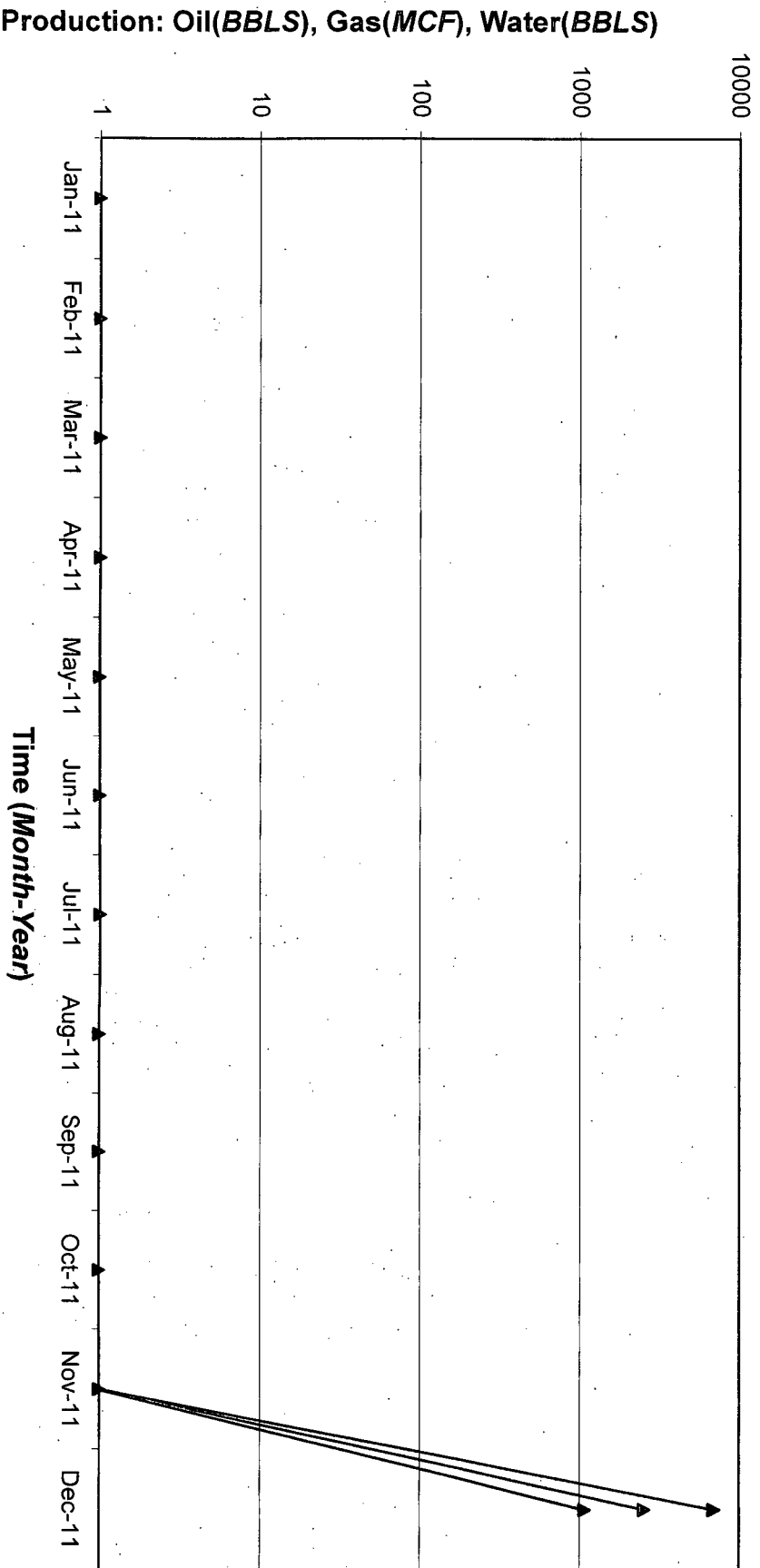
Total Production

Oil: 0

Gas: 0

Water: 0

Days Produced: 0



# Oil & Gas Production Logarithmic Curve of Well:

## FORTY NINER RIDGE UNIT #014

To make log function continuous, those  
production data points with value 0 are all set to 1

Oil Gas Water

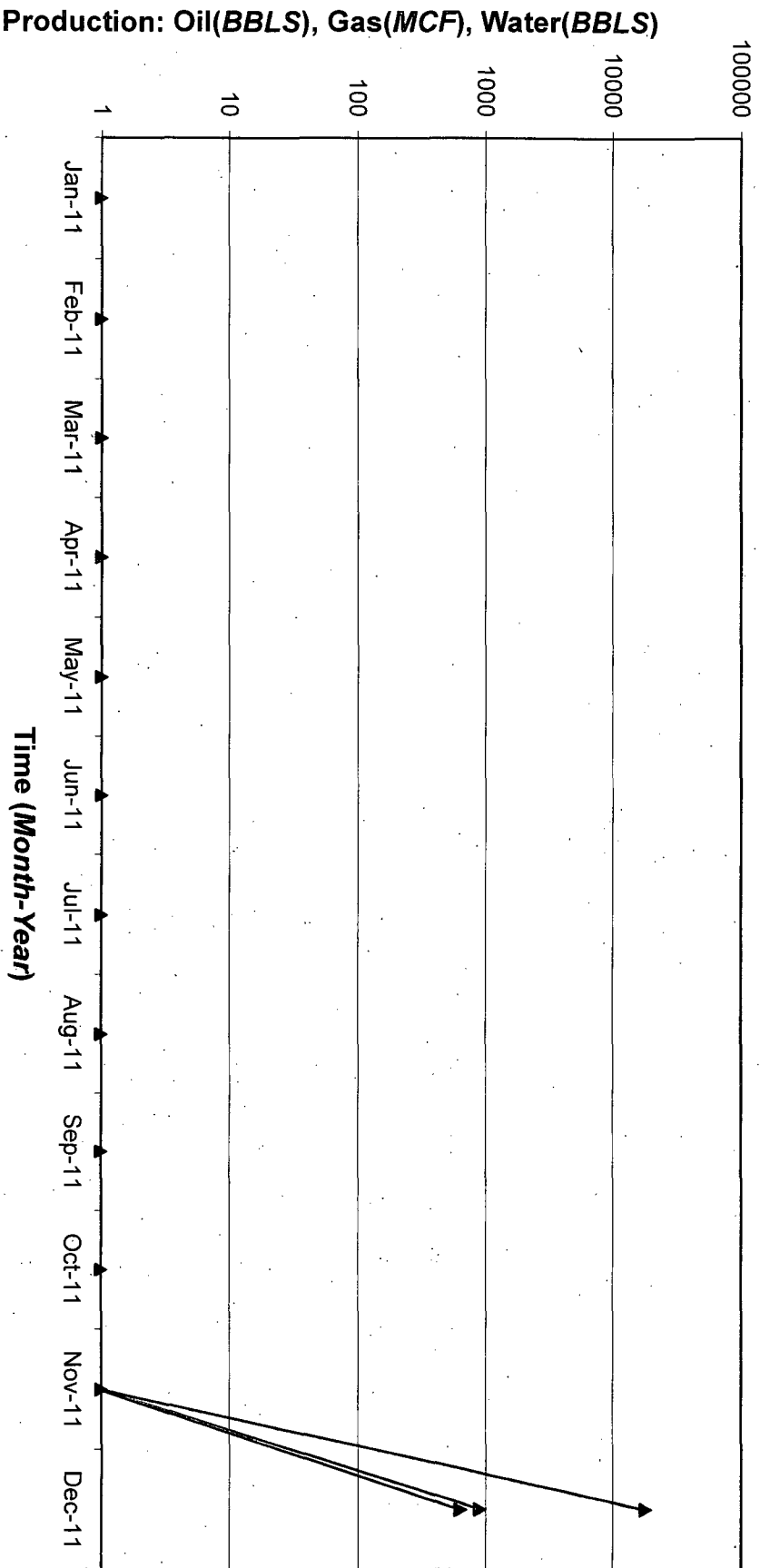
Total Production

Oil: 0

Gas: 0

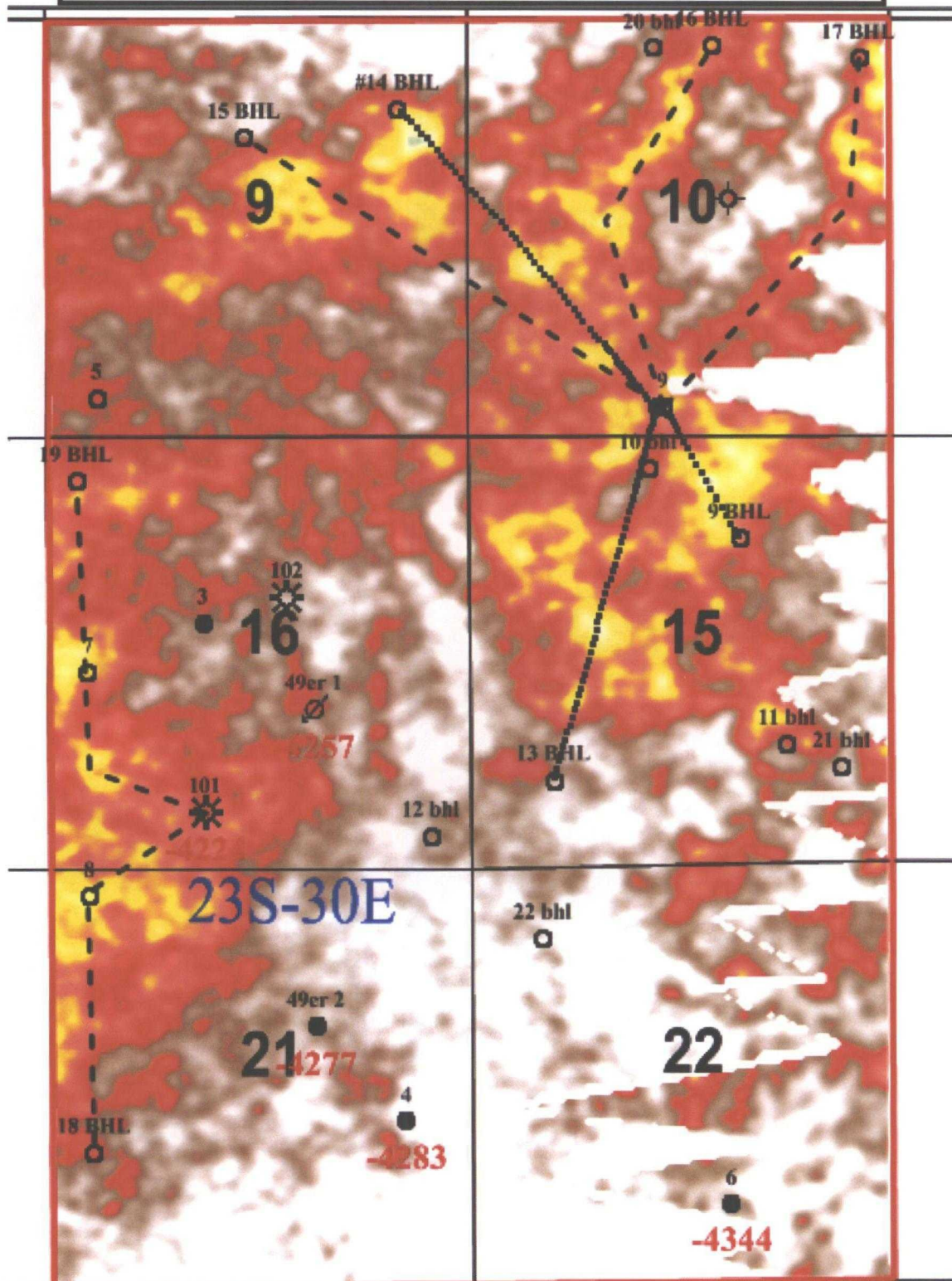
Water: 0

Days Produced: 0



# Forty Niner Ridge Unit Delaware "Upper L" Interval Seismic Anomaly Map

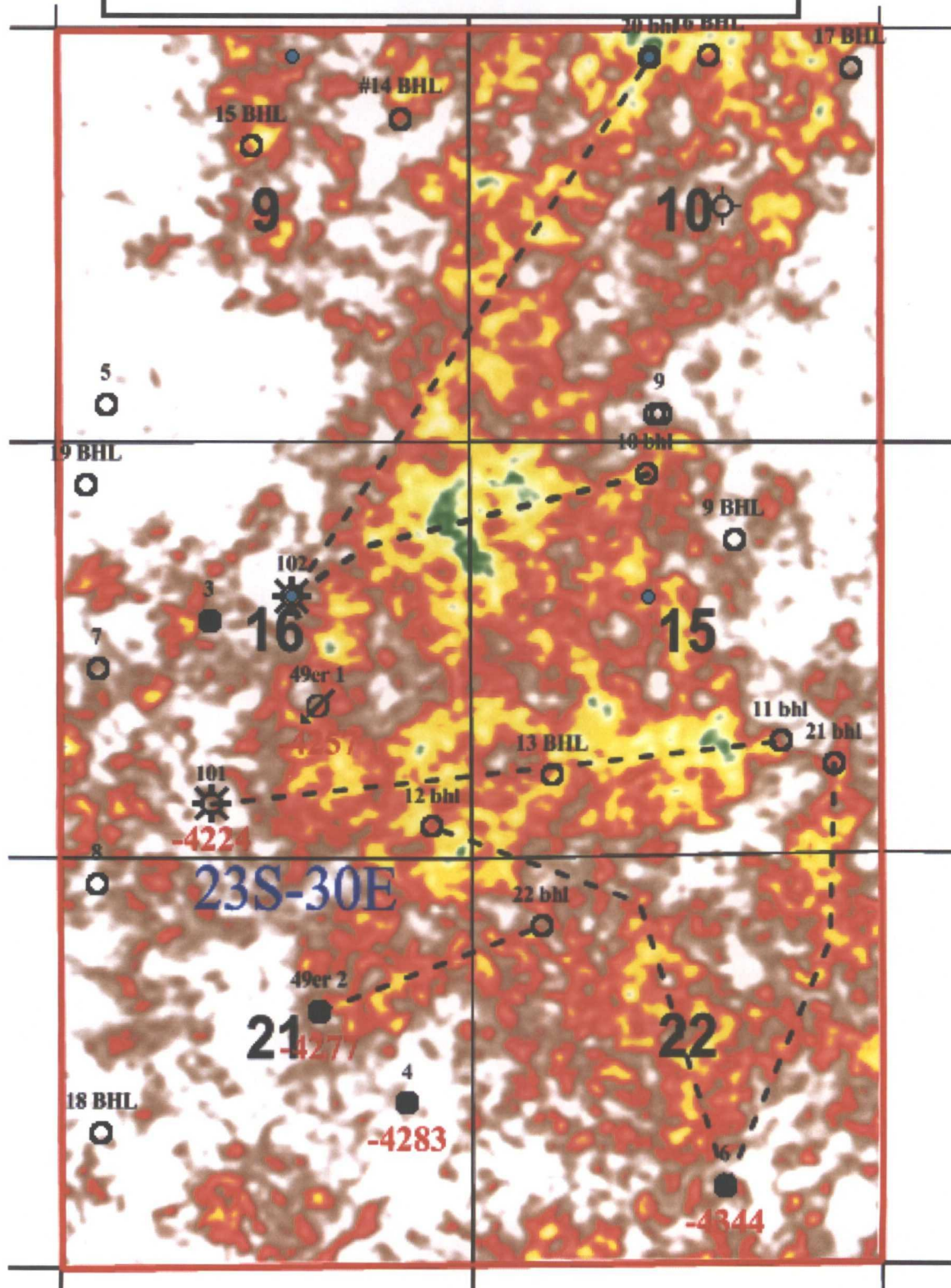
Revised 2/23/2012





# Forty Niner Ridge Unit Delaware "K-2" Interval Seismic Anomaly Map

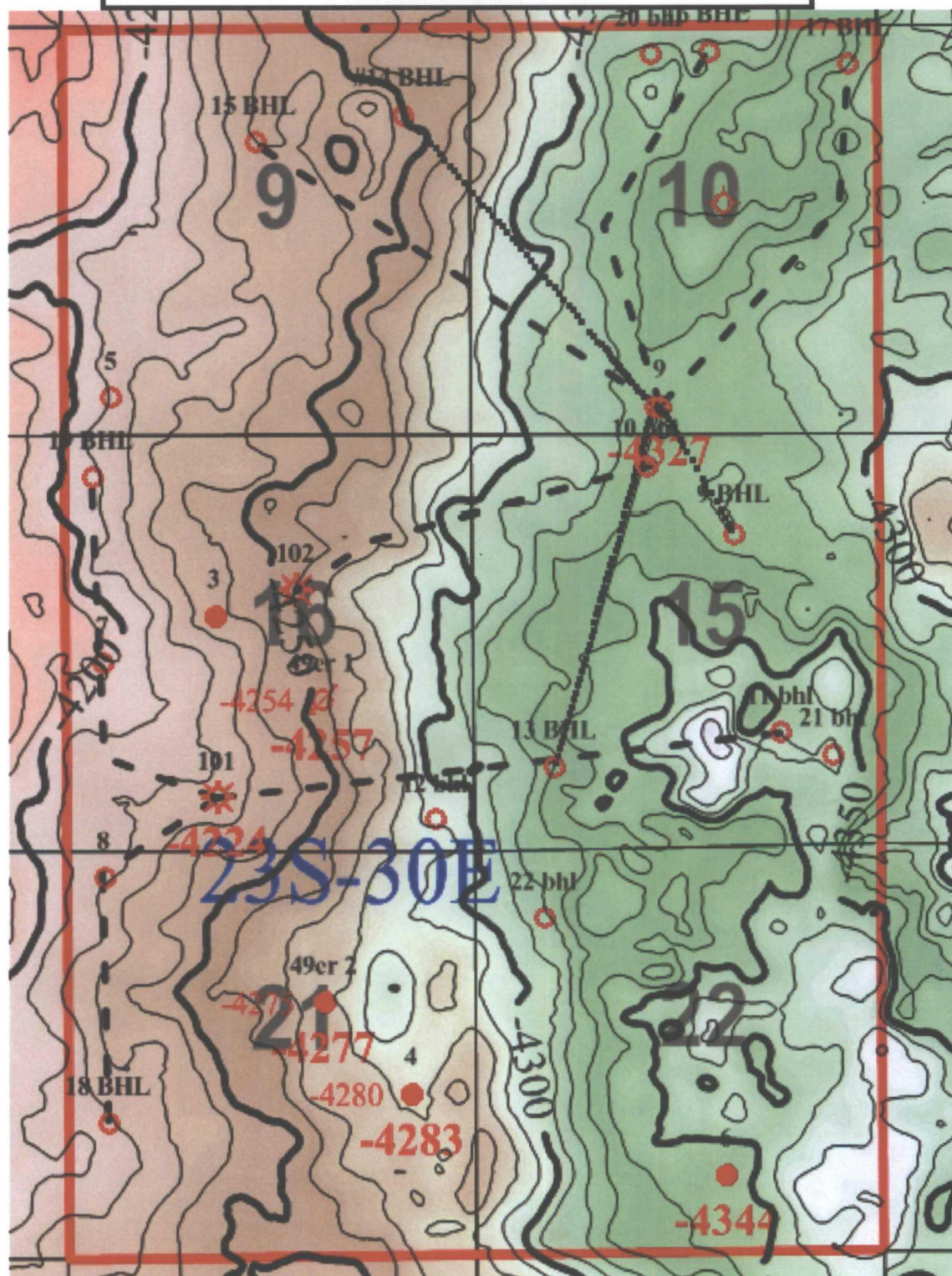
Revised 2/23/2012





# Forty Niner Ridge Unit Bone Spring Formation Structure Map CI=10'

Revised 2/23/2012



Submit 3 Copies  
to Appropriate  
District Office  
**DISTRICT I**

1625 N. French Drive, Hobbs, NM 88240

**DISTRICT II**

811 S. First Street, Artesia, NM 88210

**DISTRICT III**

1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico  
Energy, Minerals and Natural Resources Department

**OIL CONSERVATION DIVISION**

2040 South Pacheco  
Santa Fe, New Mexico 87505

Form C-103  
Revised 1-1-89

|   |   |   |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
|---|---|---|---|--|------------------------------|--|--|---|--|--|--|---------------------------------------|--|---|---|--|---|--|---------------------------------|--|---------------------------------|--|
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br>(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)   |   | WELL API NO.<br><b>30-015-33637</b>   |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| 1. Type of Well:<br>OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>   |   | 5. Indicate Type of Lease<br>STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| 2. Name of Operator<br><b>STRATA PRODUCTION COMPANY</b>   |   | 6. State Oil & Gas Lease No.  |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| 3. Address of Operator<br><b>P.O. BOX 1030, ROSWELL, NEW MEXICO 88202-1030</b>  |   | 7. Lease Name or Unit Agreement Name<br><b>Forty Niner Ridge Unit</b>                               |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| 4. Well Location<br>Unit Letter <b>O</b> : <b>990</b> Feet From The <b>South</b> Line and <b>2050</b> Feet From The <b>East</b> Line<br>Section <b>22</b> Township <b>23 South</b> Range <b>30 East</b> NMPM <b>Eddy</b> County   |   | 8. Well No.<br><b>#6</b>  |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| 10. Elevation (Show whether DF, RKB, RT, GR, etc.)<br><b>3257' GR</b>   |   | 9. Pool Name or Wildcat<br><b>Forty Niner Ridge Delaware</b>  |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| 11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data<br><table border="0"><tr><td colspan="2"><b>NOTICE OF INTENTION TO:</b></td><td colspan="2"><b>SUBSEQUENT REPORT OF:</b></td></tr><tr><td>PERFORM REMEDIAL WORK <input type="checkbox"/></td><td>PLUG AND ABANDON <input type="checkbox"/></td><td>REMEDIAL WORK <input type="checkbox"/></td><td>ALTERING CASING <input type="checkbox"/></td></tr><tr><td>TEMPORARILY ABANDON <input type="checkbox"/></td><td>CHANGE PLANS <input type="checkbox"/></td><td>COMMENCE DRILLING OPNS. <input type="checkbox"/></td><td>PLUG AND ABANDONMENT <input type="checkbox"/></td></tr><tr><td>PULL OR ALTER CASING <input type="checkbox"/></td><td></td><td>CASING TEST AND CEMENT JOB <input type="checkbox"/></td><td></td></tr><tr><td>OTHER: <input type="checkbox"/></td><td></td><td>OTHER: <input type="checkbox"/></td><td>Re-Completion <input type="checkbox"/></td></tr></table> |   |   | <b>NOTICE OF INTENTION TO:</b>                |  | <b>SUBSEQUENT REPORT OF:</b> |  | PERFORM REMEDIAL WORK <input type="checkbox"/> | PLUG AND ABANDON <input type="checkbox"/> | REMEDIAL WORK <input type="checkbox"/> | ALTERING CASING <input type="checkbox"/> | TEMPORARILY ABANDON <input type="checkbox"/> | CHANGE PLANS <input type="checkbox"/> | COMMENCE DRILLING OPNS. <input type="checkbox"/> | PLUG AND ABANDONMENT <input type="checkbox"/> | PULL OR ALTER CASING <input type="checkbox"/> |  | CASING TEST AND CEMENT JOB <input type="checkbox"/> |  | OTHER: <input type="checkbox"/> |  | OTHER: <input type="checkbox"/> | Re-Completion <input type="checkbox"/> |
| <b>NOTICE OF INTENTION TO:</b>  |   | <b>SUBSEQUENT REPORT OF:</b>  |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| PERFORM REMEDIAL WORK <input type="checkbox"/>  | PLUG AND ABANDON <input type="checkbox"/> | REMEDIAL WORK <input type="checkbox"/>  | ALTERING CASING <input type="checkbox"/>      |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| TEMPORARILY ABANDON <input type="checkbox"/>  | CHANGE PLANS <input type="checkbox"/>     | COMMENCE DRILLING OPNS. <input type="checkbox"/>  | PLUG AND ABANDONMENT <input type="checkbox"/> |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| PULL OR ALTER CASING <input type="checkbox"/>   |   | CASING TEST AND CEMENT JOB <input type="checkbox"/>   |   |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |
| OTHER: <input type="checkbox"/>   |   | OTHER: <input type="checkbox"/>   | Re-Completion <input type="checkbox"/>        |  |                              |  |  |   |  |  |  |                                       |  |   |   |  |   |  |                                 |  |                                 |  |

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)  
SEE RULE 1103

- 10/31/05: Shut well dwn. RU Totem Well Service PU. Couldn't unseat pump. Back off rods. Strip out well all day. SISD.
- 11/01/05: Finish stripping well out. PU RBP. TIH w/tbg. Set plug at 6475'. RU kill truck. Circ hole w/175 bbls 2% KCL. Test to 1000#. Test okay. TOH w/tbg. RU Schlumberger Wireline. TIH w/csg guns. Perf as follows: 6388', 89, 90, 91 & 92' (5 holes). TOH w/guns. SISD.
- 11/02/05: PU pkr. TIH w/tbg. PU set pkr at 6313'. RU Hughes Services. Acidize zone w/1000 gal 7 1/2% NeFe. Broke formation at 1300#. Max Press 4000#, Avg Press 1700#. Avg Rate 3.5 BPM, ISIP 500#, 5 Min 440#, 10 Min 420#, 15 Min 420#. RU swab. Swab well. SISD.
- 11/03/05: RU swab. Swab well. SISD.
- 11/04/05: WO frac. SISD.
- 11/05/05: RU BJ Services. Frac F-2 zone dwn 2 7/8" tbg. Max Press 2100#, Avg Press 1450#, Final Press 1608#, ISIP 561#, 5 Min 485#, 10 Min 460#, 15 Min 448#. Avg Rate 8 BPM. 4368# 16/30 siber prop sand. Ramp 4# per gal. SISD.
- 11/06/05: RU swab. Swab well. SISD.
- 11/07/05: Release pkr. Drop dwn tag up on sand above RBP. RU kill truck. Circ 32' of sand off plug. Release BP. TOH w/tbg. LD tools. PU bulldog bailer. TIH w/200 jnts. SISD.
- 11/08/05: TIH w/rest of tbg. Tagged up on sand at 7755'. Bail sand to bottom. TOH w/tbg. TIH w/production string, TA, seat nipple, perf sub and mud jnt. Set anchor, NUWH. PU pump. TIH w/rods. Seat pump, re-space rods. Hung well on. Good pump action. SD.
- 11/09/05: RD pulling unit. Pumping.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Kelly M. Britt TITLE PRODUCTION RECORDS DATE 11/22/05  
TYPE OR PRINT NAME KELLY M. BRITT TELEPHONE NO. 505-622-1127 Ext 15  
(This space for State Use)

APPROVED BY FOR RECORDS ONLY DATE NOV 28 2005  
CONDITIONS OF APPROVAL, IF ANY:



## United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Pecos District

Carlsbad Field Office

620 E. Greene

Carlsbad, New Mexico 88220-6292

www.blm.gov/nm



RECEIVED OGD  
2012 MAR -5 P 12: 56

IN REPLY REFER TO:  
3162.3-2 (P0220)  
NM70951C

MAR 01 2012

Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Forty Niner Ridge Unit 6 – Convert to Salt Water Disposal.

Strata Production Company responded to the BLM's objections in a letter dated February 24, 2012. In that letter, Strata Production Company has adequately addressed the BLM's concerns.

Therefore, the BLM removes their objection to the conversion of this well to a disposal well based primarily on the fact that other drilling will take place in this section to meet the due diligence in developing the Delaware PA.

If you have any questions, please contact Wesley W. Ingram, Supervisory Petroleum Engineer at (575) 234-5982.

Sincerely,

Wesley W. Ingram  
Supervisory Petroleum Engineer  
Bureau of Land Management  
Carlsbad Field Office

cc: Strata Production Co.

**Jones, William V., EMNRD**

---

**From:** David Lanning [dlanning@rocketmail.com]  
**Sent:** Thursday, March 08, 2012 2:28 PM  
**To:** Jones, William V., EMNRD  
**Cc:** Frank Morgan; Mark Murphy  
**Subject:** Re: Disposal well application from Strata Production Company: Forty Niner Ridge Unit #6 30-015-33637 Cherry Canyon 4510 to 5780

Will

Frank asked me to reply to your email regarding the subject disposal application.

1. We sent a copy of the application to Mosaic today with a waiver they will hopefully sign. I will scan the cover letter with the USPS confirmation tomorrow and email it to you.
2. I looked on the OCD website and the Cement Bond Log is there. Of the three logs files present it is the one that is 7817kb. Let me know if I need still contact Hobbs OCD for some reason.
3. We are sorry if it was unclear in the application that the perforations in the injection interval are proposed only. The recompletion will not commence until the application is approved and the OCD records are current as to the present status of the well.

Please let me know if you need anything else.

Regards,

David Lanning

*David Lanning*

*Oil & Gas Consulting*

*1204 San Juan Dr*

*Roswell, NM 88201*

*575-365-8308*

*dlanning@rocketmail.com*

**From:** Frank Morgan <fmorgan@stratanm.com>  
**To:** 'David Lanning' <dlanning@rocketmail.com>  
**Sent:** Thursday, March 8, 2012 8:48 AM  
**Subject:** FW: Disposal well application from Strata Production Company: Forty Niner Ridge Unit #6 30-015-33637 Cherry Canyon 4510 to 5780

**From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]  
**Sent:** Wednesday, March 07, 2012 5:08 PM  
**To:** fmorgan@stratanm.com

**Cc:** Ezeanyim, Richard, EMNRD; Wesley Ingram@blm.gov; Dade, Randy, EMNRD

**Subject:** Disposal well application from Strata Production Company: Forty Niner Ridge Unit #6 30-015-33637 Cherry Canyon 4510 to 5780

Hello Frank,

The BLM has withdrawn its protest of this application and I reviewed it today, just a couple things.

This well is located about 3 miles SW of WIPP – no notice required to them.

We ask applicants for disposal wells inside the defined R-111-P Potash area to provide notice to the uphole or nearest Potash Lessee.

If you would send them a copy of this application, we would appreciate it. We must wait 15 days or you could send a signed waiver from them.

I didn't see any Area of Review map or wells in the application. Maybe send these in any subsequent applications. I quickly looked and our database shows no wellbores within ½ mile of this well, so all is well there.

The detailed list of perforations over the disposal interval in your application implies this perforating has already been done – our well file on this well does not show that interval being perferd yet. If you could please make sure the OCD well file is up to date with all work done on this well. If this interval was already perferd and tested, please send results of any testing including any production history.

Please send a copy of the Cement Bond Log to our Hobbs office and ask it be scanned into our imaging system. It may already be there?

Hope all is well,

Regards,

William V Jones, P.E.  
Engineering, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
Tel 505.476.3448 ~ Fax 505.476.3462



Injection Permit Checklist (11/15/2010)

WFX PMX SWD B23 Permit Date 3/26/12 UIC Qtr (F) F/V

# Wells 1 Well Name(s): FORTY NINE RIDGE UNIT #6

API Num: 30-0-15-33637 Spud Date: 2005 New/Old: N (UIC primacy March 7, 1982)

Footages 990 FSL/2050 FEL Unit 0 Sec 22 Tsp 235 Rge 30E County EDDY

General Location: 3 mi SW of WIPP Boundary

Operator: State Producer Company Contact Frank Morgan

OGRID: 21712 RULE 5.9 Compliance (Wells) 2/54 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed ✓ Current Status: Producing Still (From Lower DEL)

Planned Work to Well:

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: ✓

Well Details:

|                       | Sizes         | Setting | Stage | Cement   | Determination |
|-----------------------|---------------|---------|-------|----------|---------------|
|                       | Hole.....Pipe | Depths  | Tool  | Sx or Cf | Method        |
| New Existing Surface  | 17 1/2 13 3/8 | 425'    | —     | 800 SX   | CIRC          |
| New Existing Intern   | 12 1/4 8 7/8  | 3672'   |       | 1350 SX  | CIRC          |
| New Existing LongSt   | 7 1/8 5 1/2   | 7107'   |       | 810 SX   | 2020 CBL      |
| New Existing Liner    |               |         |       |          |               |
| New Existing OpenHole |               |         |       |          |               |

Depths/Formations:

|                    | Depths, Ft.          | Formation              | Tops?                          |
|--------------------|----------------------|------------------------|--------------------------------|
| Formation(s) Above | <del>3718</del> 4502 | B. all c.<br>cherry C. | ✓<br>✓                         |
| Injection TOP:     | 4510'                | cherry C.              | Max. PSI 900 OpenHole Perfs. ✓ |
| Injection BOTTOM:  | 5780'                | cherry C.              | Tubing Size 27/8 Packer Depth  |
| Formation(s) Below | 5810                 | Brushy C.              | ✓                              |

Capitan Reef? (Potash? ✓ Noticed? ✓) [WIPP? ✓ Noticed? ✓] Salado Top/Bot 700-3380' GWH House? ✓

Fresh Water: Depths: 120-400' Formation Wells? yes Analysis? ✓ Affirmative Statement ✓

Disposal Fluid Analysis? ✓ Sources: Must be ONLY FROM Forty Nine Ridge Unit

Disposal Interval: Analysis? ✓ Production Potential/Testing: Non commercial (Statement)

Notice: Newspaper Date 2/2/12 Surface Owner BEA (2/1/12) Mineral Owner(s) ✓

RULE 26.7(A) Affected Persons: Conoco / OXY / Perm / KHD / ARVILA / CAG / EXXON / Chem 2/13/12  
markham

AOR: Maps? OK Well List? OK Producing in Interval? NO Wellbore Diagrams? —

.....Active Wells 0 Repairs? — Which Wells? —

.....P&A Wells 0 Repairs? — Which Wells? —

Issues: Request Sent Reply:

No Record of Current Reg.