

|                      |          |                     |                           |                 |                               |
|----------------------|----------|---------------------|---------------------------|-----------------|-------------------------------|
| DATE <b>06/08/15</b> | SUSPENSE | ENGINEER <b>FRG</b> | LOGGED IN <b>06/11/15</b> | TYPE <b>SWD</b> | APP NO. <b>PPRG1518054473</b> |
|----------------------|----------|---------------------|---------------------------|-----------------|-------------------------------|

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION  
- Engineering Bureau -  
1220 South St. Francis Drive, Santa Fe, NM. 87505



## ADMINISTRATIVE APPLICATION CHECKLIST

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

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

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

GMT Exploration  
Company

25  
Tin Cup State No. 1  
30-023-34902

Delaware  
Commercial

### [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

### [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.

Eddie W Seay Eddie W Seay Agent 5/19/2015  
Print or Type Name Signature Title Date  
seay\_04@leaco.net  
e-mail Address

**APPLICATION FOR AUTHORIZATION TO INJECT**

PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance \_\_\_\_\_ ☒ Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ ☒ Yes \_\_\_\_\_ No

II. OPERATOR: GMT Exploration Company, LLC

ADDRESS: 1560 Broadway, Suite 2000 Denver, CO 80202

CONTACT PARTY: Hugo Cartaya

PHONE: 720-946-3032

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: Hugo Cartaya

TITLE: Engineering Manager

SIGNATURE: Hugo Cartaya

DATE: 6/1/15

E-MAIL ADDRESS: hcartaya@gmtexploration.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: \_\_\_\_\_

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

## INJECTION WELL DATA SHEET

OPERATOR: GMT Exploration Company, LLCWELL NAME & NUMBER: Tin Cup "25" State

WELL LOCATION: 660' FSL & 660' FWL M 25 22S 34E  
 FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC (Proposed modification)  
Surface Casing

Hole Size: 17 1/2" Casing Size: 13 3/8"  
 Cemented with: 1500 sx. or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: Surface Method Determined: Circulation

Intermediate Casing

Hole Size: 12 1/4" Casing Size: 9 5/8"  
 Cemented with: \_\_\_\_\_ sx. or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: XX Surface Method Determined: Circulation

Production Casing

Hole Size: 9 5/8" Csg Casing Size: 5 1/2"  
 Cemented with: 5100 sx. or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: Surface Method Determined: Circulation  
 Total Depth: 6720'

Injection Interval

6275' feet to 6420'

(Perforated or Open Hole; indicate which)

WELL CONSTRUCTION DATA**Proposed Modification to Tin Cup "25" state**Casing String(Surface)

13 3/8" @ 1860'  
 Cmtd with 1500sx

Casing String  
 9 5/8" @ 5039'  
 Cmtd with 1760sx

Casing string (PROPOSED)  
 5 1/2" @ 6720'  
 Cmtd with 5100sx

Casing String  
 7", 7003'-11,715'

Plastic coat 2 7/8" TBG & PKF  
 and 100' of casing shoe  
 Packer @6190'

Perforations per attached  
 ~103' net btwn 6275' & 6420'

Advertised  
 5093' to 6943'

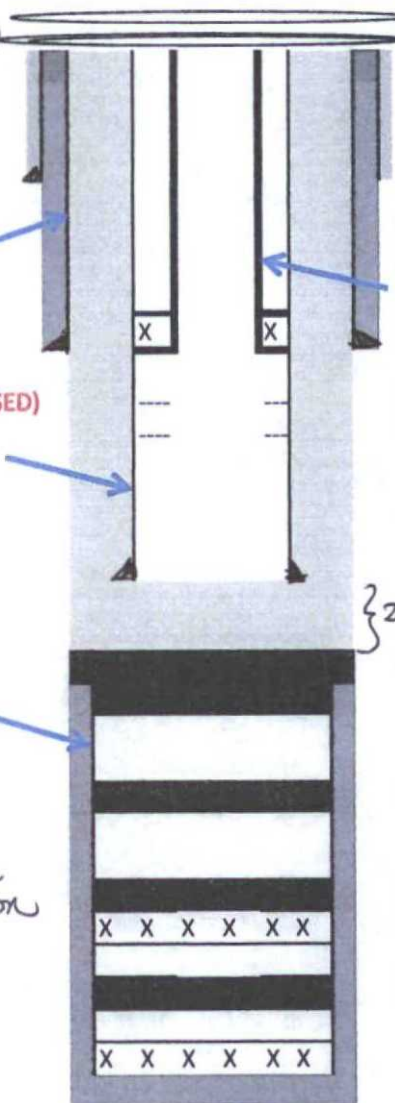
200'  
 Plug, 6943'-7074'

Plug, 8341' - 8551'

Excess Cement  
 CIBP, 11470'

Plug 11,638' - 11,688'

Approve 6100' to 6700' Re-designed completion  
 per conversation



**INJECTION WELL DATA SHEET**

Tubing Size: 2 7/8" Lining Material: Plastic

Type of Packer: Halliburton Retrievable

Packer Setting Depth: 6190'

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

Additional Data

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes XX No

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

Exploration well

2. Name of the Injection Formation: Delaware, Cherry Canyon

3. Name of Field or Pool (if applicable): Antelope 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. \_\_\_\_\_

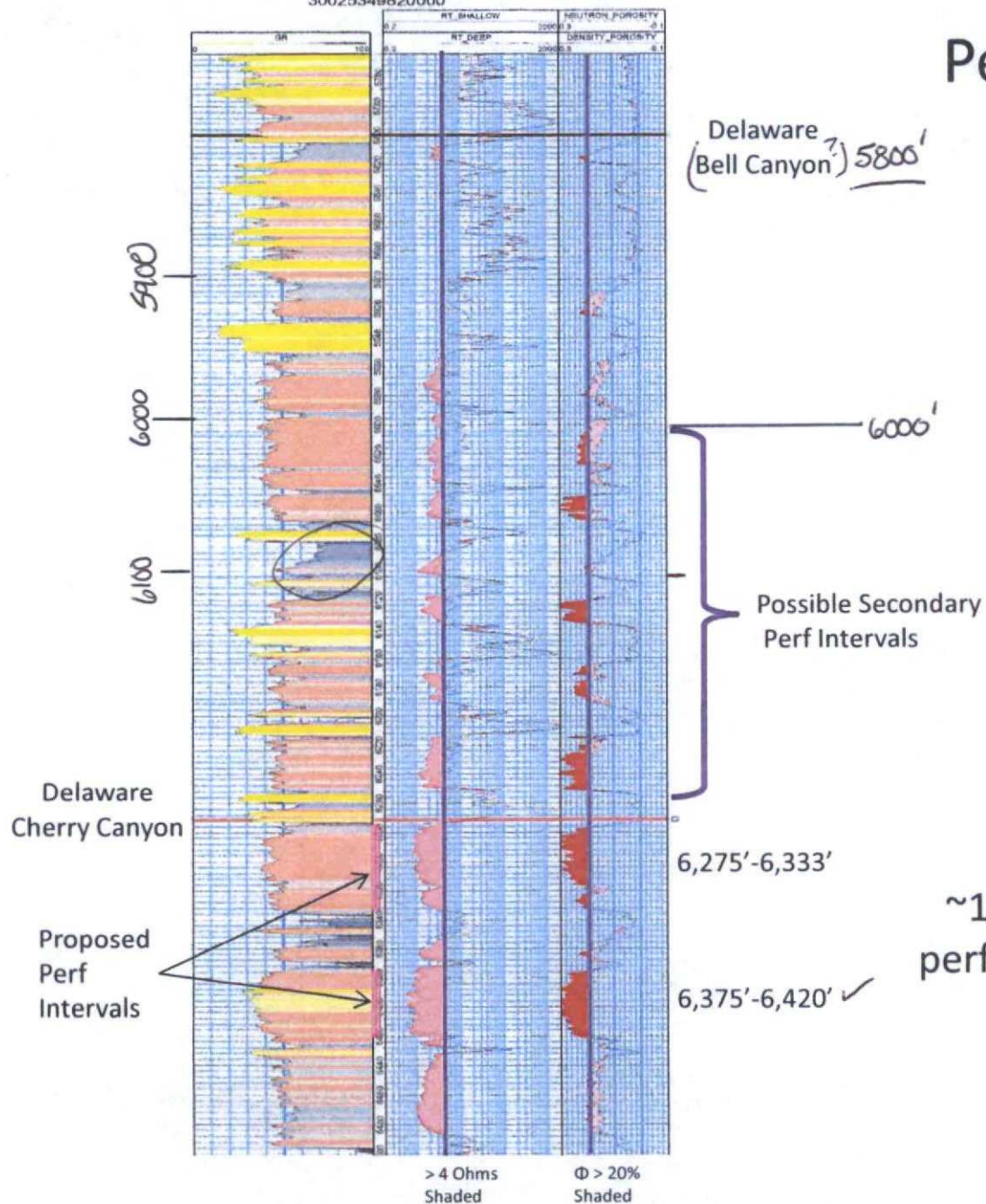
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Overlying oil and /or gas zones - NONE

Underlying oil and/or gas zones -- Bone Spring (8609'), Wolfcamp (11,450')

SOUTHWESTERN ENRG PR  
TIN CUP '25' STATE

T22S R34E S25  
30025349820000

## Proposed Perforation/Injection Intervals



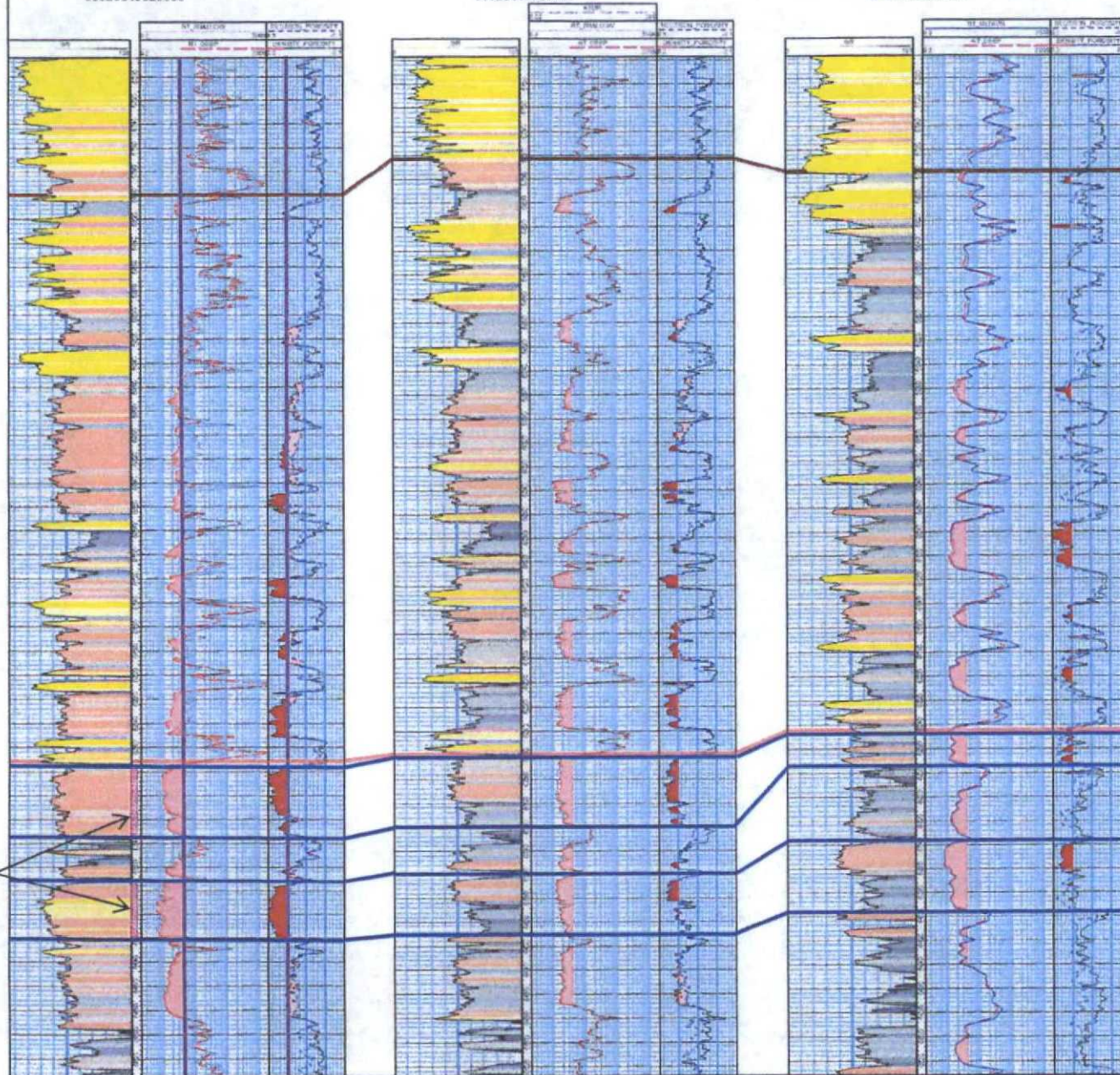
~103' proposed  
perforated interval



A

SOUTHWESTERN ENRG PR  
TIN CUP '25' STATET22S R34E S25  
30025349820000GMT EXPLOR CO LLC  
MG 36 1HT22S R34E S36  
30025413520000ORYX ENERGY CO  
OJO CHISO FEDERALT22S R34E S26  
30025306990000

A'

Proposed  
Perf  
Intervals> 4 Ohms  
Shaded $\Phi > 20\%$   
ShadedDelaware  
Bell CanyonDelaware  
Cherry CanyonLaterally Continuous  
Beds

## ITEM VII

**OPERATIONAL DATA**

- (1). Average expected injection rate: 800 BWPD; maximum anticipated rate: 5000 BWPD
- (2). Closed system
- (3). Estimated average injection pressure: 500 psi.  
Estimated maximum pressure: 1250 psi.
- (4). Source of injection water:  
Analysis of water attached .
- (5). Analysis of injection zone water attached.  
Data source: Cardinal Laboratories

## ITEM VIII

## INJECTION ZONE

GMT Exploration proposes to recompleate the Tin Cup '25' State 1 located in Section 25, T22S, R34E for salt water disposal service.

The proposed injection zone is the Cherry Canyon of the Delaware Mountain Group, a mixture of sandstone, limestone, and siltstone from 6,265' to 7,110'. The perforated intervals will be confined to laterally continuous sandstone packages with porosity 20% or greater. The Cherry Canyon is a non-hydrocarbon bearing zone near the proposed injection well. The top of the Capitan Reef is 4,700' and the top of the Delaware Mountain Group is 5,150'. The proposed injection zone is approximately 1,115' below the base of the Capitan Reef. Groundwater will be shallower than 1,850', the top of the Rustler.

## FRESH WATER SOURCE(S)

Geological name of aquifer: Santa Rosa

Depth to bottom of zone: +/- 300 ft.

## ITEM III-B

## INJECTION WELL DATA

- (1). Injection formation: Delaware  
Field/Pool: Antelope Ridge Atoka Gas
- (2). Injection Interval; from 6275 ft. to 6420 ft.  
Perforated XX Open Hole
- (3). Original purpose of well drilled Production out of Morrow
- (4). Other perforated intervals;        Yes XX No  
Squeezed with        sx, or isolated by 50sx from 6943'-7074'
- (5). Oil or gas productive zone(s):  
Next higher: None  
Next lower: None



## ITEM VII

## OPERATIONAL DATA

- (1). Average expected injection rate: 800 BWPD; maximum anticipated rate: 5000 BWPD
- (2). Closed system
- (3). Estimated average injection pressure: 500 psi.  
Estimated maximum pressure: 1250 psi.
- (4). Source of injection water:  
Analysis of water attached.
- (5). Analysis of injection zone water attached.  
Data source: \_\_\_\_\_

## ITEM VIII

## INJECTION ZONE

Lithological description: Sandstone

Geological name: Delaware

Zone thickness: 3460 ft.; Depth: 5150 ft.

## FRESH WATER SOURCE(S)

Geological name of aquifer: Santa Rosa

Depth to bottom of zone: +/- 300 ft.

ITEM IX

**STIMULATION PROGRAM**

No stimulation is planned.

ITEM X

**LOGGING PROGRAM**

Well logs have been filed with the Division; thus, they do not need to be resubmitted.

ITEM XI

**FRESH WATER DATA**

Fresh water well within 1 mile radius: \_\_\_\_\_ Yes XX No

- A review of the State Engineer Website shows no Fresh Water Wells within 1 mile of proposed SWD well.

Chemical analysis from well located \_\_\_\_\_

Date sampled: \_\_\_\_\_ EXHIBIT \_\_\_\_\_

Chemical analysis from well located \_\_\_\_\_

Date sampled: \_\_\_\_\_ EXHIBIT \_\_\_\_\_

ITEM XII

**HYDROLOGY**

Various engineering data and area logs reveal no evidence that there might exist hydrologic connection between the intended injection zone (Delaware) between 5039' and 6943' and fresh water zone above 300'.

ITEM XIII

**COMMERICAL INTENTION**

Initially, only water from GMT Exploration Company, LLC ('GMT') operated wells will be disposed of in subject well/system. Eventually, GMT could wish to take water from other leases in the area operated from other operators. A majority of this water will be off lease water, and most water will be piped into system.

## CARDINAL LABORATORIES SCALE INDEX WATER ANALYSIS REPORT

|             |   |                          |
|-------------|---|--------------------------|
| Company     | : | EUNICE PUMP              |
| Lease Name  | : | PADUCA DELAWARE 16 ST #4 |
| Well Number | : | PRIDE ENERGY             |
| Location    | : | NOT GIVEN                |

Date Sampled : 07/31/15  
Company Rep. : ELI GARZA

## ANALYSIS

- |                                   |        |                                    |
|-----------------------------------|--------|------------------------------------|
| 1. pH                             | 6.23   |                                    |
| 2. Specific Gravity @ 60/60 F.    | 1.1570 |                                    |
| 3. CaCO3 Saturation Index @ 80 F. | +2.318 | 'Calcium Carbonate Scale Possible' |
| @ 140 F.                          | +4.298 | 'Calcium Carbonate Scale Possible' |

## Dissolved Gasses

- |                     |    |     |
|---------------------|----|-----|
| 4. Hydrogen Sulfide | ND | PPM |
| 5. Carbon Dioxide   | ND | PPM |
| 6. Dissolved Oxygen | ND | PPM |

## Cations

- | Cations             | mg/L      | / | Eq. Wt. | = | MEQ/L    |
|---------------------|-----------|---|---------|---|----------|
| 7. Calcium (Ca++)   | 20,300.00 | / | 20.1    | = | 1,009.95 |
| 8. Magnesium (Mg++) | 3,220.00  | / | 12.2    | = | 263.93   |
| 9. Sodium (Na+)     | 61,700    | / | 23.0    | = | 3,355.94 |
| 10. Barium (Ba++)   | 0.000     | / | 68.7    | = | 0.00     |

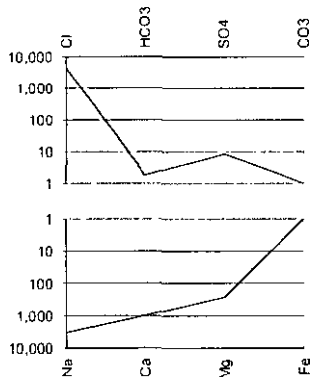
## Anions

- |                         |         |   |      |   |          |
|-------------------------|---------|---|------|---|----------|
| 11. Hydroxyl (OH-)      | 0       | / | 17.0 | = | 0.00     |
| 12. Carbonate (CO3=)    | 0       | / | 30.0 | = | 0.00     |
| 13. Bicarbonate (HCO3-) | 109     | / | 61.1 | = | 1.78     |
| 14. Sulfate (SO4=)      | 406     | / | 48.8 | = | 8.32     |
| 15. Chloride (Cl-)      | 164,000 | / | 35.5 | = | 4,619.72 |

**Other**

- |                                        |          |            |      |             |      |
|----------------------------------------|----------|------------|------|-------------|------|
| 16. Soluble Iron (Fe)                  | 13.400   | /          | 18.2 | =           | 0.74 |
| 17. Total Dissolved Solids             | 242,000  |            |      |             |      |
| 18. Total Hardness As CaCO3            | 63,949.0 |            |      |             |      |
| 19. Calcium Sulfate Solubility @ 90 F. | 652      |            |      |             |      |
| 20. Resistivity (Measured)             | 0.031    | Ohm/Meters | @ 77 | Degrees (F) |      |

### Logarithmic Water Pattern



### PROBABLE MINERAL COMPOSITION

| COMPOUND                           | Eq. Wt. | X | MEQ/L    | = | mg/L    |
|------------------------------------|---------|---|----------|---|---------|
| Ca(HCO <sub>3</sub> ) <sub>2</sub> | 81.04   | X | 1.78     | = | 145     |
| CaSO <sub>4</sub>                  | 68.07   | X | 8.32     | = | 566     |
| CaCl <sub>2</sub>                  | 55.50   | X | 999.85   | = | 55,491  |
| Mg(HCO <sub>3</sub> ) <sub>2</sub> | 73.17   | X | 0.00     | = | 0       |
| MgSO <sub>4</sub>                  | 60.19   | X | 0.00     | = | 0       |
| MgCl <sub>2</sub>                  | 47.62   | X | 263.93   | = | 12,569  |
| NaHCO <sub>3</sub>                 | 84.00   | X | 0.00     | = | 0       |
| NaSO <sub>4</sub>                  | 71.03   | X | 0.00     | = | 0       |
| NaCl                               | 58.46   | X | 3,355.94 | = | 196,188 |

# GMT PROPOSED INJECTION ZONE



## Water Sample Analysis

| Pool                           | Location |          |       | Chlorides  |
|--------------------------------|----------|----------|-------|------------|
|                                | Section  | Township | Range |            |
| North Justis Montoya           | 2        | 25S      | 37E   | 45440      |
| North Justis McKee             | 2        | 25S      | 37E   | 58220      |
| North Justis Fusselman         | 2        | 25S      | 37E   | 68533      |
| North Justis Ellenburger       | 2        | 25S      | 37E   | 34151      |
| Fowler Blinebry                | 22       | 24S      | 37E   | 116085     |
| Skaggs Grayburg                | 18       | 20S      | 38E   | 84845      |
| Warren McKee                   | 18       | 20S      | 38E   | 85910      |
| Warren Abo                     | 19       | 20S      | 39E   | 91600      |
| DK Drinkard                    | 30       | 20S      | 39E   | 106855     |
| Littman San Andres             | 8        | 21S      | 38E   | 38695      |
| East Hobbs grayburg            | 29       | 18S      | 39E   | 6461       |
| Halfway Yates                  | 16       | 20S      | 32E   | 14768      |
| Arkansas Junction San Andres   | 12       | 18S      | 36E   | 7171       |
| Pearl Queen                    | 28       | 19S      | 35E   | 114310     |
| Midway Abo                     | 17       | 17S      | 37E   | 38494      |
| Lovinton Abo                   | 31       | 16S      | 37E   | 22933      |
| Lovington San Andres           | 3        | 16S      | 37E   | 4899       |
| Lovington Paddock              | 31       | 16S      | 37E   | 93720      |
| Mesa Queen                     | 17       | 16S      | 32E   | 172530     |
| Kemnitz Wolfcamp               | 27       | 16S      | 34E   | 49345      |
| Hume Queen                     | 9        | 16S      | 34E   | 124980     |
| Anderson Ranch Wolfcamp        | 2        | 16S      | 32E   | 11040      |
| Anderson Ranch Devonian        | 11       | 16S      | 32E   | 25702      |
| Anderson Ranch Unit            | 11       | 16S      | 32E   | 23786      |
| Caudill Devonian               | 9        | 15S      | 36E   | 20874      |
| Townsend Wolfcamp              | 6        | 16S      | 38E   | 38695      |
| Dean Permo Penn                | 5        | 16S      | 37E   | 44730      |
| Dean Devonian                  | 35       | 15S      | 36E   | 19525      |
| South Denton Wolfcamp          | 26       | 15S      | 37E   | 54315      |
| South Denton Devonian          | 36       | 15S      | 37E   | 34080      |
| Medicine Rock Devonian         | 15       | 15S      | 38E   | 39760      |
| Little Lucky Lake Devonian     | 29       | 15S      | 30E   | 23288      |
| Wantz Abo                      | 26       | 21S      | 37E   | 132770     |
| Crosby Devonian                | 18       | 25S      | 37E   | 58220      |
| Scarborough Yates Seven Rivers | 7        | 26S      | 37E   | 3443(Reef) |
| Teague Simpson                 | 34       | 23S      | 37E   | 114665     |
| Teague Ellenburger             | 34       | 23S      | 37E   | 120345     |
| Rhodes Yates 7 Rivers          | 27       | 26S      | 37E   | 144485     |
| House SA                       | 11       | 20S      | 38E   | 93365      |
| House Drinkard                 | 12       | 20S      | 38E   | 49700      |
| South Leonard Queen            | 24       | 26S      | 37E   | 115375     |
| Elliot Abo                     | 2        | 21S      | 38E   | 55380      |
| Scharb Bone Springs            | 5        | 19S      | 35E   | 30801      |
| EK Queen                       | 13       | 18S      | 34E   | 41890      |
| East EK Queen                  | 22       | 18S      | 34E   | 179630     |
| Maljamar Grayburg SA           | 22       | 17S      | 32E   | 46079      |
| Maljamar Paddock               | 27       | 17S      | 32E   | 115375     |
| Maljamar Devonian              | 22       | 17S      | 32E   | 25418      |

August 12, 2015

ELI GARZA

EUNICE PUMP

P.O. BOX 1468

EUNICE, LEA 88231

RE: PADUCA DELAWARE 16 ST. #4

Enclosed are the results of analyses for samples received by the laboratory on 07/31/15 10:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-S. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html)

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                                |
|------------------|--------------------------------|
| Method EPA 552.2 | Total Haloacetic Acids (HAA-5) |
| Method EPA 524.2 | Total Trihalomethanes (TTHM)   |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)    |

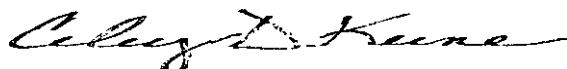
Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

|                  |                                                 |
|------------------|-------------------------------------------------|
| Method SM 9223-B | Total Coliform and E. coli (Colilert MMO-MUG)   |
| Method EPA 524.2 | Regulated VOCs and Total Trihalomethanes (TTHM) |
| Method EPA 552.2 | Total Haloacetic Acids (HAA-5)                  |

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

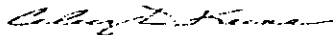
**Analytical Results For:**EUNICE PUMP  
P.O. BOX 1468  
EUNICE LEA, 88231Project: PADUCA DELAWARE 16 ST. #4  
Project Number: NONE GIVEN  
Project Manager: ELI GARZA  
Fax To: (575) 394-0008Reported:  
12-Aug-15 16:08

| Sample ID    | Laboratory ID | Matrix | Date Sampled    | Date Received   |
|--------------|---------------|--------|-----------------|-----------------|
| PRIDE ENERGY | H501986-01    | Water  | 31-Jul-15 00:00 | 31-Jul-15 10:15 |

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client or its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

EUNICE PUMP  
P.O. BOX 1468  
EUNICE LEA, 88231

Project: PADUCA DELAWARE 16 ST. #4  
Project Number: NONE GIVEN  
Project Manager: ELI GARZA  
Fax To: (575) 394-0008

Reported:  
12-Aug-15 16:08

**PRIDE ENERGY**  
H501986-01 (Water)

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

**Cardinal Laboratories**
**Inorganic Compounds**

|                          |        |  |       |          |      |         |    |           |           |  |
|--------------------------|--------|--|-------|----------|------|---------|----|-----------|-----------|--|
| Alkalinity, Bicarbonate  | 109    |  | 5.00  | mg/L     | 1    | 5080504 | AP | 05-Aug-15 | 310.1     |  |
| Alkalinity, Carbonate    | ND     |  | 0.00  | mg/L     | 1    | 5080504 | AP | 05-Aug-15 | 310.1     |  |
| Chloride*                | 164000 |  | 4.00  | mg/L     | 1    | 5072706 | AP | 05-Aug-15 | 4500-Cl-B |  |
| Conductivity*            | 320000 |  | 1.00  | uS/cm    | 1    | 5081103 | AP | 11-Aug-15 | 120.1     |  |
| pH*                      | 6.23   |  | 0.100 | pH Units | 1    | 5073010 | AP | 31-Jul-15 | 150.1     |  |
| Resistivity              | 0.0310 |  |       | Ohms/m   | 1    | 5081103 | AP | 11-Aug-15 | 120.1     |  |
| Specific Gravity @ 60° F | 1.157  |  | 0.000 | [blank]  | 1    | 5081205 | AP | 12-Aug-15 | SM 2710F  |  |
| Sulfate*                 | 406    |  | 83.3  | mg/L     | 8.33 | 5080309 | AP | 04-Aug-15 | 375.4     |  |
| TDS*                     | 242000 |  | 5.00  | mg/L     | 1    | 5080403 | AP | 06-Aug-15 | 160.1     |  |
| Alkalinity, Total*       | 90.0   |  | 4.00  | mg/L     | 1    | 5080504 | AP | 05-Aug-15 | 310.1     |  |

**Green Analytical Laboratories**
**Total Recoverable Metals by ICP (E200.7)**

|            |       |  |      |      |     |         |     |           |          |  |
|------------|-------|--|------|------|-----|---------|-----|-----------|----------|--|
| Barium*    | ND    |  | 1.00 | mg/L | 100 | B508088 | JGS | 11-Aug-15 | EPA200.7 |  |
| Calcium*   | 20300 |  | 2.00 | mg/L | 100 | B508088 | JGS | 11-Aug-15 | EPA200.7 |  |
| Iron*      | 13.4  |  | 5.00 | mg/L | 100 | B508088 | JGS | 11-Aug-15 | EPA200.7 |  |
| Magnesium* | 3220  |  | 10.0 | mg/L | 100 | B508088 | JGS | 11-Aug-15 | EPA200.7 |  |
| Potassium* | 1250  |  | 100  | mg/L | 100 | B508088 | JGS | 11-Aug-15 | EPA200.7 |  |
| Sodium*    | 61700 |  | 100  | mg/L | 100 | B508088 | JGS | 11-Aug-15 | EPA200.7 |  |

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 EUNICE PUMP  
 P.O. BOX 1468  
 EUNICE LEA, 88231

 Project: PADUCA DELAWARE 16 ST. #4  
 Project Number: NONE GIVEN  
 Project Manager: ELI GARZA  
 Fax To: (575) 394-0008

 Reported:  
 12-Aug-15 16:08

**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch 5072706 - General Prep - Wet Chem**

Blank (5072706-BLK1) Prepared: 27-Jul-15 Analyzed: 28-Jul-15

Chloride ND 4.00 mg/L

LCS (5072706-BS1) Prepared: 27-Jul-15 Analyzed: 28-Jul-15

Chloride 100 4.00 mg/L 100 100 80-120

LCS Dup (5072706-BSD1) Prepared: 27-Jul-15 Analyzed: 28-Jul-15

Chloride 108 4.00 mg/L 100 108 80-120 7.69 20

**Batch 5073010 - General Prep - Wet Chem**

LCS (5073010-BS1) Prepared: 30-Jul-15 Analyzed: 31-Jul-15

pH 7.27 pH Units 7.90 104 90-110

Duplicate (5073010-DUP1) Source: H501954-04 Prepared: 30-Jul-15 Analyzed: 31-Jul-15

pH 7.92 0.100 pH Units 7.99 0.880 20

**Batch 5080309 - General Prep - Wet Chem**

Blank (5080309-BLK1) Prepared: 03-Aug-15 Analyzed: 04-Aug-15

Sulfate ND 10.0 mg/L

LCS (5080309-BS1) Prepared: 03-Aug-15 Analyzed: 04-Aug-15

Sulfate 20.1 10.0 mg/L 20.0 101 80-120

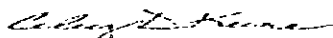
LCS Dup (5080309-BSD1) Prepared: 03-Aug-15 Analyzed: 04-Aug-15

Sulfate 19.0 10.0 mg/L 20.0 95.1 80-120 5.72 20

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 EUNICE PUMP  
 P.O. BOX 1468  
 EUNICE LEA, 88231

 Project: PADUCA DELAWARE 16 ST. #4  
 Project Number: NONE GIVEN  
 Project Manager: ELI GARZA  
 Fax To: (575) 394-0008

 Reported:  
 12-Aug-15 16:08

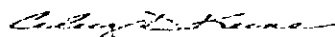
**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

| Analyte                                        | Result | Reporting Limit | Units | Spike Level                             | Source Result | %REC                                    | %REC Limits | RPD  | RPD Limit | Notes |
|------------------------------------------------|--------|-----------------|-------|-----------------------------------------|---------------|-----------------------------------------|-------------|------|-----------|-------|
| <b>Batch 5080403 - Filtration</b>              |        |                 |       |                                         |               |                                         |             |      |           |       |
| <b>Blank (5080403-BLK1)</b>                    |        |                 |       | Prepared 28-Jul-15 Analyzed: 04-Aug-15  |               |                                         |             |      |           |       |
| TDS                                            | ND     | 5.00            | mg/L  |                                         |               |                                         |             |      |           |       |
| <b>LCS (5080403-BS1)</b>                       |        |                 |       | Prepared, 28-Jul-15 Analyzed, 04-Aug-15 |               |                                         |             |      |           |       |
| TDS                                            | 530    | 5.00            | mg/L  | 527                                     |               | 101                                     | 80-120      |      |           |       |
| <b>Duplicate (5080403-DUP1)</b>                |        |                 |       | Source: H501940-05                      |               | Prepared, 28-Jul-15 Analyzed, 04-Aug-15 |             |      |           |       |
| TDS                                            | 15300  | 5.00            | mg/L  |                                         | 15700         |                                         |             | 2.75 | 20        |       |
| <b>Batch 5080504 - General Prep - Wet Chem</b> |        |                 |       |                                         |               |                                         |             |      |           |       |
| <b>Blank (5080504-BLK1)</b>                    |        |                 |       | Prepared & Analyzed: 05-Aug-15          |               |                                         |             |      |           |       |
| Alkalinity, Carbonate                          | ND     | 0.00            | mg/L  |                                         |               |                                         |             |      |           |       |
| Alkalinity, Bicarbonate                        | ND     | 5.00            | mg/L  |                                         |               |                                         |             |      |           |       |
| Alkalinity, Total                              | ND     | 4.00            | mg/L  |                                         |               |                                         |             |      |           |       |
| <b>LCS (5080504-BS1)</b>                       |        |                 |       | Prepared & Analyzed: 05-Aug-15          |               |                                         |             |      |           |       |
| Alkalinity, Carbonate                          | ND     | 0.00            | mg/L  |                                         |               |                                         | 80-120      |      |           |       |
| Alkalinity, Bicarbonate                        | 126    | 5.00            | mg/L  |                                         |               |                                         | 80-120      |      |           |       |
| Alkalinity, Total                              | 104    | 4.00            | mg/L  | 100                                     |               | 104                                     | 80-120      |      |           |       |
| <b>LCS Dup (5080504-BSD1)</b>                  |        |                 |       | Prepared & Analyzed: 05-Aug-15          |               |                                         |             |      |           |       |
| Alkalinity, Carbonate                          | ND     | 0.00            | mg/L  |                                         |               |                                         | 80-120      |      | 20        |       |
| Alkalinity, Bicarbonate                        | 131    | 5.00            | mg/L  |                                         |               |                                         | 80-120      | 3.89 | 20        |       |
| Alkalinity, Total                              | 108    | 4.00            | mg/L  | 100                                     |               | 108                                     | 80-120      | 3.77 | 20        |       |
| <b>Batch 5081103 - General Prep - Wet Chem</b> |        |                 |       |                                         |               |                                         |             |      |           |       |
| <b>LCS (5081103-BS1)</b>                       |        |                 |       | Prepared & Analyzed: 11-Aug-15          |               |                                         |             |      |           |       |
| Conductivity                                   | 489    |                 | uS/cm | 500                                     |               | 97.8                                    | 80-120      |      |           |       |

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**EUNICE PUMP  
P.O. BOX 1468  
EUNICE LEA, 88231Project: PADUCA DELAWARE 16 ST. #4  
Project Number: NONE GIVEN  
Project Manager: ELI GARZA  
Fax To: (575) 394-0008Reported:  
12-Aug-15 16:08**Inorganic Compounds - Quality Control****Cardinal Laboratories**

| Analyte | Result | Reporting<br>Limit | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

**Batch 5081103 - General Prep - Wet Chem**

|                                 |        |                           |        |                                           |        |  |  |      |     |  |
|---------------------------------|--------|---------------------------|--------|-------------------------------------------|--------|--|--|------|-----|--|
| <b>Duplicate (5081103-DUP1)</b> |        | <b>Source: H501986-01</b> |        | <b>Prepared &amp; Analyzed: 11-Aug-15</b> |        |  |  |      |     |  |
| Conductivity                    | 277000 | 1.00                      | uS/cm  |                                           | 320000 |  |  | 14.3 | 20  |  |
| Resistivity                     | 0.0360 |                           | Ohms m |                                           | 0.0310 |  |  | 14.9 | 200 |  |

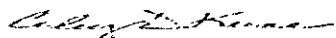
**Batch 5081205 - General Prep - Wet Chem**

|                                 |       |                           |         |                                           |       |  |  |       |     |  |
|---------------------------------|-------|---------------------------|---------|-------------------------------------------|-------|--|--|-------|-----|--|
| <b>Duplicate (5081205-DUP1)</b> |       | <b>Source: H501986-01</b> |         | <b>Prepared &amp; Analyzed: 12-Aug-15</b> |       |  |  |       |     |  |
| Specific Gravity @ 60° F        | 1.165 | 0.000                     | [blank] |                                           | 1.157 |  |  | 0.651 | 200 |  |

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 EUNICE PUMP  
 P.O. BOX 1468  
 EUNICE LEA, 88231

 Project: PADUCA DELAWARE 16 ST. #4  
 Project Number: NONE GIVEN  
 Project Manager: ELI GARZA  
 Fax To: (575) 394-0008

 Reported:  
 12-Aug-15 16:08

**Total Recoverable Metals by ICP (E200.7) - Quality Control**
**Green Analytical Laboratories**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch B508088 - EPA 200.2**
**Blank (B508088-BLK1)**

Prepared &amp; Analyzed: 11-Aug-15

|           |       |       |      |  |  |  |  |  |  |    |
|-----------|-------|-------|------|--|--|--|--|--|--|----|
| Sodium    | ND    | 1.00  | mg/L |  |  |  |  |  |  |    |
| Magnesium | ND    | 0.100 | mg/L |  |  |  |  |  |  |    |
| Potassium | ND    | 1.00  | mg/L |  |  |  |  |  |  |    |
| Iron      | ND    | 0.050 | mg/L |  |  |  |  |  |  |    |
| Calcium   | 0.023 | 0.020 | mg/L |  |  |  |  |  |  | B1 |
| Barium    | ND    | 0.010 | mg/L |  |  |  |  |  |  |    |

**LCS (B508088-BS1)**

Prepared &amp; Analyzed: 11-Aug-15

|           |      |       |      |      |  |      |        |  |  |  |
|-----------|------|-------|------|------|--|------|--------|--|--|--|
| Barium    | 1.95 | 0.010 | mg/L | 2.00 |  | 97.6 | 85-115 |  |  |  |
| Potassium | 8.34 | 1.00  | mg/L | 8.00 |  | 104  | 85-115 |  |  |  |
| Sodium    | 6.52 | 1.00  | mg/L | 6.48 |  | 101  | 85-115 |  |  |  |
| Magnesium | 21.0 | 0.100 | mg/L | 20.0 |  | 105  | 85-115 |  |  |  |
| Calcium   | 4.11 | 0.020 | mg/L | 4.00 |  | 103  | 85-115 |  |  |  |
| Iron      | 3.93 | 0.050 | mg/L | 4.00 |  | 98.3 | 85-115 |  |  |  |

**LCS Dup (B508088-BSD1)**

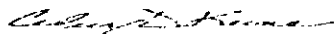
Prepared &amp; Analyzed: 11-Aug-15

|           |      |       |      |      |  |      |        |       |    |  |
|-----------|------|-------|------|------|--|------|--------|-------|----|--|
| Potassium | 8.08 | 1.00  | mg/L | 8.00 |  | 101  | 85-115 | 3.06  | 20 |  |
| Magnesium | 20.5 | 0.100 | mg/L | 20.0 |  | 103  | 85-115 | 2.44  | 20 |  |
| Sodium    | 6.39 | 1.00  | mg/L | 6.48 |  | 98.7 | 85-115 | 1.89  | 20 |  |
| Iron      | 3.91 | 0.050 | mg/L | 4.00 |  | 97.7 | 85-115 | 0.694 | 20 |  |
| Barium    | 1.92 | 0.010 | mg/L | 2.00 |  | 95.8 | 85-115 | 1.87  | 20 |  |
| Calcium   | 4.02 | 0.020 | mg/L | 4.00 |  | 101  | 85-115 | 2.22  | 20 |  |

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

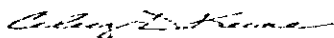
- B1 Target analyte detected in method blank at or above method reporting limit. Sample concentration found to be 10 times above the concentration found in the method blank or less than the reporting limit.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



## Page 9 of 9

| Company Name: <b>Eunice Pump</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                | <b>BILL TO:</b>             |                 | <b>ANALYSIS REQUEST</b>                                                            |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------|-----------------|------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------|-----------|---------------------------------------------------------------------------------------|--|--|--|--|--|------------------|----------|-------------|-----------------|--------------|--------|----------|----------|--|--|--|--|--|--------------------------------------------------------------|-----------------------------------|-----------|--|----------------|------------------------|--|--|-------------------------------------------------|--|--|
| Project Manager:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                | P.O. #:                     |                 | Scale Index                                                                        |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Address: <b>PO Box 1468</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                | Company: <b>Eunice Pump</b> |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| City: <b>Eunice</b> State: <b>LA</b> Zip: <b>85231</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                | Attn:                       |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Phone #: <b>394-4012</b> Fax #: <b>394-0008</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                | Address:                    |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Project #: Project Owner:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                | City:                       |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Project Name: <b>Phduca Delaware 16 St. #4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                | State: Zip:                 |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Project Location:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                | Phone #:                    |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Sampler Name:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                | Fax #:                      |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| <table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <th style="width:10%;">FOR LAB USE ONLY</th> <th style="width:15%;">Lab I.D.</th> <th style="width:15%;">Sample I.D.</th> <th style="width:5%;">GRAB OR (C)OMP.</th> <th style="width:5%;"># CONTAINERS</th> <th style="width:10%;">MATRIX</th> <th style="width:10%;">PRESERV.</th> <th style="width:10%;">SAMPLING</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>GROUNDWATER<br/>WASTEWATER<br/>SOIL<br/>OIL<br/>SLUDGE<br/>OTHER:</td> <td>ACID/BASE<br/>ICE / COOL<br/>OTHER:</td> <td>DATE TIME</td> </tr> <tr> <td></td> <td><b>H501986</b></td> <td><b>1, Pride Energy</b></td> <td></td> <td></td> <td><input checked="" type="checkbox"/> GROUNDWATER</td> <td></td> <td></td> </tr> </table>                                                                |                |                             |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  | FOR LAB USE ONLY | Lab I.D. | Sample I.D. | GRAB OR (C)OMP. | # CONTAINERS | MATRIX | PRESERV. | SAMPLING |  |  |  |  |  | GROUNDWATER<br>WASTEWATER<br>SOIL<br>OIL<br>SLUDGE<br>OTHER: | ACID/BASE<br>ICE / COOL<br>OTHER: | DATE TIME |  | <b>H501986</b> | <b>1, Pride Energy</b> |  |  | <input checked="" type="checkbox"/> GROUNDWATER |  |  |
| FOR LAB USE ONLY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Lab I.D.       | Sample I.D.                 | GRAB OR (C)OMP. | # CONTAINERS                                                                       | MATRIX                                                       | PRESERV.                          | SAMPLING  |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |                             |                 |                                                                                    | GROUNDWATER<br>WASTEWATER<br>SOIL<br>OIL<br>SLUDGE<br>OTHER: | ACID/BASE<br>ICE / COOL<br>OTHER: | DATE TIME |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>H501986</b> | <b>1, Pride Energy</b>      |                 |                                                                                    | <input checked="" type="checkbox"/> GROUNDWATER              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| <small>PLEASE NOTE: Liability and Damages. Our results liability and third-party liability for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims, including claims for negligence and any other claims which cover shall be deemed waived unless made in writing and received by Client within 30 days after completion of the applicable service. In no event shall Contract be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or intermediaries arising out of or in connection with the performance of services hereunder by Client, regardless of whether such claims are based in contract or tort. All claims shall be subject to arbitration.</small> |                |                             |                 |                                                                                    |                                                              |                                   |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Relinquished By: <b>Docke D. Delmon</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                             |                 | Date: <b>7-31-15</b>                                                               |                                                              | Received By: <b>Andy Garcia</b>   |           | Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Relinquished By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                             |                 | Date: <b>7/31/15</b>                                                               |                                                              | Received By:                      |           | Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:     |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Time: <b>10:15</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |                             |                 |                                                                                    |                                                              |                                   |           | REMARKS: <b>egarza@eunicepump.com</b>                                                 |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Delivered By: (Circle One)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                             |                 | Sample Condition                                                                   |                                                              | CHECKED BY:                       |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |
| Sampler - UPS - Bus - Other:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                             |                 | Cool Intact<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |                                                              | (Initials)<br><b>AG</b>           |           |                                                                                       |  |  |  |  |  |                  |          |             |                 |              |        |          |          |  |  |  |  |  |                                                              |                                   |           |  |                |                        |  |  |                                                 |  |  |

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2328

## Water Analysis Report

Production Company: GMT EXPLORATION

Well Name: PRYOR 1H

Sample Point: WELLHEAD

Sample Date: 4/8/2013

Sample ID: WA-239488

Sales Rep: Eric Spangler

Lab Tech: LaTasha Cornish

Scaling potential predicted using ScaleSoftPitzer from  
Brine Chemistry Consortium (Rice University)

| Sample Specifics                  |           | Analysis @ Properties in Sample Specifics |          |                                                         |          |
|-----------------------------------|-----------|-------------------------------------------|----------|---------------------------------------------------------|----------|
| Test Date:                        | 4/12/2013 | Cations                                   |          | Anions                                                  |          |
| System Temperature 1 (°F):        | 120.00    | Sodium (Na):                              | 62571.11 | Chloride (Cl):                                          | 98000.00 |
| System Pressure 1 (psig):         | 300.0000  | Potassium (K):                            | 1074.01  | Sulfate (SO <sub>4</sub> ):                             | 663.00   |
| System Temperature 2 (°F):        | 84.00     | Magnesium (Mg):                           | 562.37   | Bicarbonate (HCO <sub>3</sub> ):                        | 3452.60  |
| System Pressure 2 (psig):         | 300.0000  | Calcium (Ca):                             | 765.24   | Carbonate (CO <sub>3</sub> ):                           |          |
| Calculated Density (g/ml):        | 1.104     | Strontium (Sr):                           | 31.92    | Acetic Acid (CH <sub>3</sub> COO)                       |          |
| pH:                               | 6.85      | Barium (Ba):                              | 0.20     | Propionic Acid (C <sub>2</sub> H <sub>5</sub> COO)      |          |
| Calculated TDS (mg/L):            | 167127.58 | Iron (Fe):                                | 5.90     | Butanoic Acid (C <sub>3</sub> H <sub>7</sub> COO)       |          |
| CO <sub>2</sub> in Gas (%):       |           | Zinc (Zn):                                | 0.00     | Isobutyric Acid ((CH <sub>3</sub> ) <sub>2</sub> CHCOO) |          |
| Dissolved CO <sub>2</sub> (mg/L): | 430.00    | Lead (Pb):                                | 0.00     | Fluoride (F):                                           |          |
| H <sub>2</sub> S in Gas (%):      |           | Ammonia NH <sub>3</sub> :                 |          | Bromine (Br):                                           |          |
| H <sub>2</sub> S in Water (mg/L): | 85.50     | Manganese (Mn):                           | 1.23     | Silica (SiO <sub>2</sub> ):                             |          |

## Notes:

(PTB = Pounds per Thousand Barrels)

| Temp (°F) | PSI    | Calcium Carbonate |        | Barium Sulfate |      | Iron Sulfide |      | Iron Carbonate |      | Gypsum CaSO <sub>4</sub> 2H <sub>2</sub> O |      | Celestite SrSO <sub>4</sub> |      | Halite NaCl |      | Zinc Sulfide |      |
|-----------|--------|-------------------|--------|----------------|------|--------------|------|----------------|------|--------------------------------------------|------|-----------------------------|------|-------------|------|--------------|------|
|           |        | SI                | PTB    | SI             | PTB  | SI           | PTB  | SI             | PTB  | SI                                         | PTB  | SI                          | PTB  | SI          | PTB  | SI           | PTB  |
| 84.00     | 300.00 | 1.43              | 419.60 | 0.00           | 0.00 | 2.88         | 3.25 | 0.99           | 3.83 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 88.00     | 300.00 | 1.44              | 424.13 | 0.00           | 0.00 | 2.86         | 3.25 | 1.01           | 3.87 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 92.00     | 300.00 | 1.46              | 428.55 | 0.00           | 0.00 | 2.83         | 3.25 | 1.04           | 3.89 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 96.00     | 300.00 | 1.48              | 432.87 | 0.00           | 0.00 | 2.81         | 3.25 | 1.07           | 3.92 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 100.00    | 300.00 | 1.49              | 437.11 | 0.00           | 0.00 | 2.79         | 3.25 | 1.10           | 3.94 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 104.00    | 300.00 | 1.51              | 441.28 | 0.00           | 0.00 | 2.77         | 3.25 | 1.12           | 3.96 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 108.00    | 300.00 | 1.52              | 445.39 | 0.00           | 0.00 | 2.75         | 3.25 | 1.15           | 3.98 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 112.00    | 300.00 | 1.54              | 449.44 | 0.00           | 0.00 | 2.74         | 3.25 | 1.17           | 4.00 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 116.00    | 300.00 | 1.56              | 453.43 | 0.00           | 0.00 | 2.72         | 3.25 | 1.20           | 4.01 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 120.00    | 300.00 | 1.57              | 457.38 | 0.00           | 0.00 | 2.71         | 3.25 | 1.22           | 4.03 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |

| Temp (°F) | PSI    | Hemihydrate CaSO <sub>4</sub> 0.5H <sub>2</sub> O |      | Anhydrite CaSO <sub>4</sub> |      | Calcium Fluoride |      | Zinc Carbonate |      | Lead Sulfide |      | Mg Silicate |      | Ca Mg Silicate |      | Fe Silicate |      |
|-----------|--------|---------------------------------------------------|------|-----------------------------|------|------------------|------|----------------|------|--------------|------|-------------|------|----------------|------|-------------|------|
|           |        | SI                                                | PTB  | SI                          | PTB  | SI               | PTB  | SI             | PTB  | SI           | PTB  | SI          | PTB  | SI             | PTB  | SI          | PTB  |
| 84.00     | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 88.00     | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 92.00     | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 96.00     | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 100.00    | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 104.00    | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 108.00    | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 112.00    | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 116.00    | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 120.00    | 300.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |

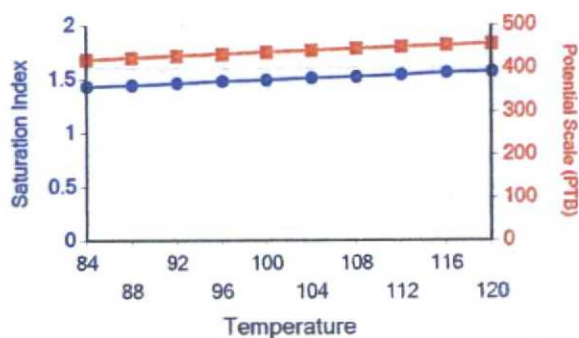


## Water Analysis Report

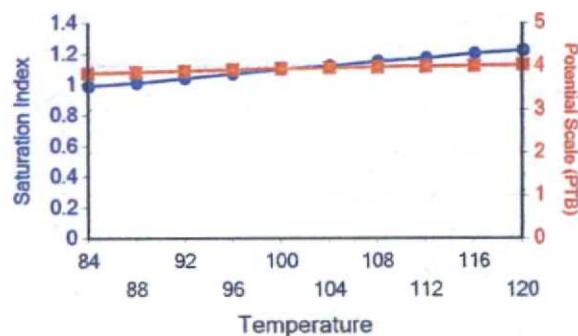
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Iron Sulfide Iron Carbonate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Iron Sulfide Iron Carbonate

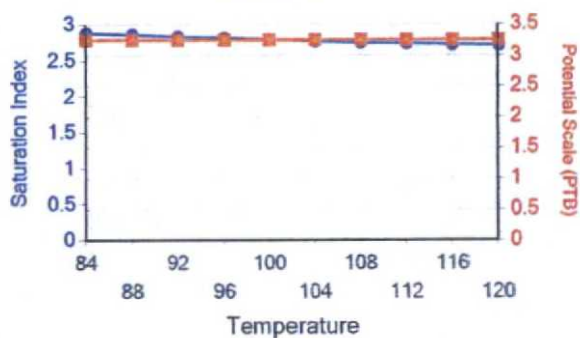
Calcium Carbonate



Iron Carbonate



Iron Sulfide



Units of Measurement: Standard

## Water Analysis Report

Production Company: GMT  
 Well Name: MERCHANT 24, LEA  
 Sample Point: Wellhead  
 Sample Date: 1/19/2015  
 Sample ID: WA-298991

Sales Rep: Wilson Hayes  
 Lab Tech: Andrew Callaghan

Scaling potential predicted using ScaleSoftPitzer from  
 Brine Chemistry Consortium (Rice University)

| Sample Specifics                  |           | Analysis @ Properties in Sample Specifics |          |                                                         |          |
|-----------------------------------|-----------|-------------------------------------------|----------|---------------------------------------------------------|----------|
| Test Date:                        | 1/30/2015 | Cations                                   | mg/L     | Anions                                                  | mg/L     |
| System Temperature 1 (°F):        | 130       | Sodium (Na):                              | 47855.36 | Chloride (Cl):                                          | 87000.00 |
| System Pressure 1 (psig):         | 1200      | Potassium (K):                            | 817.66   | Sulfate (SO <sub>4</sub> ):                             | 869.00   |
| System Temperature 2 (°F):        | 68        | Magnesium (Mg):                           | 818.45   | Bicarbonate (HCO <sub>3</sub> ):                        | 73.20    |
| System Pressure 2 (psig):         | 55        | Calcium (Ca):                             | 5957.80  | Carbonate (CO <sub>3</sub> ):                           |          |
| Calculated Density (g/ml):        | 1.0920    | Strontium (Sr):                           | 221.56   | Acetic Acid (CH <sub>3</sub> COO)                       |          |
| pH:                               | 6.50      | Barium (Ba):                              | 0.35     | Propionic Acid (C <sub>2</sub> H <sub>5</sub> COO)      |          |
| Calculated TDS (mg/L):            | 143672.98 | Iron (Fe):                                | 27.42    | Butanoic Acid (C <sub>3</sub> H <sub>7</sub> COO)       |          |
| CO <sub>2</sub> in Gas (%):       | 2.73      | Zinc (Zn):                                | 0.16     | Isobutyric Acid ((CH <sub>3</sub> ) <sub>2</sub> CHCOO) |          |
| Dissolved CO <sub>2</sub> (mg/L): | 280.00    | Lead (Pb):                                | 0.05     | Fluoride (F):                                           |          |
| H <sub>2</sub> S in Gas (%):      | 0.000000  | Ammonia NH <sub>3</sub> :                 |          | Bromine (Br):                                           |          |
| H <sub>2</sub> S in Water (mg/L): | 0.00      | Manganese (Mn):                           | 0.91     | Silica (SiO <sub>2</sub> ):                             | 31.06    |

## Notes:

(PTB = Pounds per Thousand Barrels)

|           |         | Calcium Carbonate |      | Barium Sulfate |      | Iron Sulfide |      | Iron Carbonate |      | Gypsum CaSO <sub>4</sub> ·2H <sub>2</sub> O |      | Celestite SrSO <sub>4</sub> |      | Halite NaCl |      | Zinc Sulfide |      |
|-----------|---------|-------------------|------|----------------|------|--------------|------|----------------|------|---------------------------------------------|------|-----------------------------|------|-------------|------|--------------|------|
| Temp (°F) | PSI     | SI                | PTB  | SI             | PTB  | SI           | PTB  | SI             | PTB  | SI                                          | PTB  | SI                          | PTB  | SI          | PTB  | SI           | PTB  |
| 68.00     | 55.00   | 0.00              | 0.00 | 0.07           | 0.03 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 74.00     | 182.00  | 0.00              | 0.00 | 0.02           | 0.01 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 81.00     | 309.00  | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 88.00     | 436.00  | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 95.00     | 563.00  | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 102.00    | 691.00  | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 109.00    | 818.00  | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 116.00    | 945.00  | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 123.00    | 1072.00 | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 130.00    | 1200.00 | 0.00              | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00           | 0.00 | 0.00                                        | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |

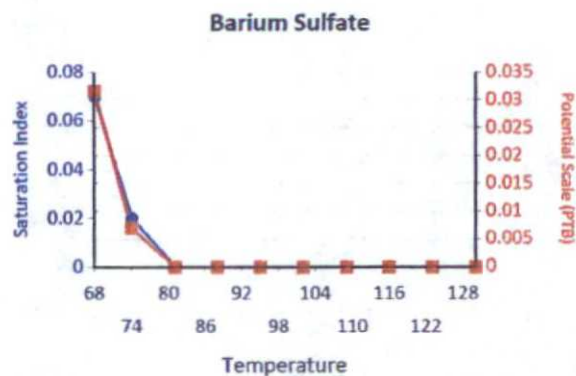
|           |         | Hemihydrate CaSO <sub>4</sub> ·0.5H <sub>2</sub> O |      | Anhydrite CaSO <sub>4</sub> |      | Calcium Fluoride |      | Zinc Carbonate |      | Lead Sulfide |      | Mg Silicate |      | Ca Mg Silicate |      | Fe Silicate |      |
|-----------|---------|----------------------------------------------------|------|-----------------------------|------|------------------|------|----------------|------|--------------|------|-------------|------|----------------|------|-------------|------|
| Temp (°F) | PSI     | SI                                                 | PTB  | SI                          | PTB  | SI               | PTB  | SI             | PTB  | SI           | PTB  | SI          | PTB  | SI             | PTB  | SI          | PTB  |
| 68.00     | 55.00   | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 74.00     | 182.00  | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 81.00     | 309.00  | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 88.00     | 436.00  | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 95.00     | 563.00  | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 102.00    | 691.00  | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 109.00    | 818.00  | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 116.00    | 945.00  | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 123.00    | 1072.00 | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 130.00    | 1200.00 | 0.00                                               | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |



Water Analysis Report

These scales have positive scaling potential under initial temperature and pressure: Barium Sulfate

These scales have positive scaling potential under final temperature and pressure:





## Multi-Chem Analytical Laboratory

1122 S. FM1788

Midland, TX 76706

Units of Measurement: **Standard**

multi-chem®

A HALLIBURTON SERVICE

## Water Analysis Report

Production Company: **GMT**  
 Well Name: **Merchant Gap 25 ST Com 1H**  
 Sample Point:  
 Sample Date: **8/19/2014**  
 Sample ID: **WA-284082**

Sales Rep: **Wilson Hayes**  
 Lab Tech: **Heather Moran**

Scaling potential predicted using ScaleSoftPitzer from  
 Brine Chemistry Consortium (Rice University)

| Sample Specifics                  |           | Analysis @ Properties in Sample Specifics |         |                                                         |          |
|-----------------------------------|-----------|-------------------------------------------|---------|---------------------------------------------------------|----------|
| Test Date:                        | 8/20/2014 | Cations                                   |         | Anions                                                  |          |
| System Temperature 1 (°F):        | 31        | Sodium (Na):                              | 5171.33 | Chloride (Cl):                                          | 81000.00 |
| System Pressure 1 (psig):         | 100       | Potassium (K):                            | 1037.20 | Sulfate (SO <sub>4</sub> ):                             | 1791.00  |
| System Temperature 2 (°F):        | 89        | Magnesium (Mg):                           | 169.96  | Bicarbonate (HCO <sub>3</sub> ):                        | 930.00   |
| System Pressure 2 (psig):         | 130       | Calcium (Ca):                             | 891.85  | Carbonate (CO <sub>3</sub> ):                           |          |
| Calculated Density (g/ml):        | 1.0863    | Strontium (Sr):                           | 67.04   | Acetic Acid (CH <sub>3</sub> COO)                       |          |
| pH:                               | 6.30      | Barium (Ba):                              | 0.28    | Propionic Acid (C <sub>2</sub> H <sub>5</sub> COO)      |          |
| Calculated TDS (mg/L):            | 137643.08 | Iron (Fe):                                | 37.39   | Butanoic Acid (C <sub>3</sub> H <sub>7</sub> COO)       |          |
| CO <sub>2</sub> in Gas (%):       |           | Zinc (Zn):                                | 0.01    | Isobutyric Acid ((CH <sub>3</sub> ) <sub>2</sub> CHCOO) |          |
| Dissolved CO <sub>2</sub> (mg/L): | 266.20    | Lead (Pb):                                | 0.01    | Fluoride (F):                                           |          |
| H <sub>2</sub> S in Gas (%):      |           | Ammonia NH <sub>3</sub> :                 |         | Bromine (Br):                                           |          |
| H <sub>2</sub> S in Water (mg/L): | 0.00      | Manganese (Mn):                           | 0.98    | Silica (SiO <sub>2</sub> ):                             | 6.03     |

## Notes:

(PTB = Pounds per Thousand Barrels)

| Temp<br>(°F) | PSI    | Calcium Carbonate |       | Barium Sulfate |      | Iron Sulfide |      | Iron Carbonate |       | Gypsum CaSO <sub>4</sub> 2H <sub>2</sub> O |      | Celestite SrSO <sub>4</sub> |      | Halite NaCl |      | Zinc Sulfide |      |
|--------------|--------|-------------------|-------|----------------|------|--------------|------|----------------|-------|--------------------------------------------|------|-----------------------------|------|-------------|------|--------------|------|
|              |        | SI                | PTB   | SI             | PTB  | SI           | PTB  | SI             | PTB   | SI                                         | PTB  | SI                          | PTB  | SI          | PTB  | SI           | PTB  |
| 89.00        | 130.00 | 0.31              | 49.73 | 0.17           | 0.06 | 0.00         | 0.00 | 0.60           | 18.75 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 82.00        | 126.00 | 0.28              | 44.71 | 0.22           | 0.07 | 0.00         | 0.00 | 0.55           | 17.79 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 76.00        | 123.00 | 0.25              | 39.55 | 0.27           | 0.08 | 0.00         | 0.00 | 0.50           | 16.72 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 69.00        | 120.00 | 0.21              | 34.20 | 0.32           | 0.09 | 0.00         | 0.00 | 0.44           | 15.49 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 63.00        | 116.00 | 0.18              | 28.57 | 0.37           | 0.09 | 0.00         | 0.00 | 0.39           | 14.09 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 56.00        | 113.00 | 0.14              | 22.52 | 0.42           | 0.11 | 0.00         | 0.00 | 0.33           | 12.51 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 50.00        | 110.00 | 0.10              | 15.81 | 0.48           | 0.11 | 0.00         | 0.00 | 0.27           | 10.71 | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 43.00        | 106.00 | 0.05              | 7.95  | 0.53           | 0.12 | 0.00         | 0.00 | 0.21           | 8.68  | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 37.00        | 103.00 | 0.00              | 0.00  | 0.59           | 0.12 | 0.00         | 0.00 | 0.15           | 6.40  | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |
| 31.00        | 100.00 | 0.00              | 0.00  | 0.64           | 0.13 | 0.00         | 0.00 | 0.08           | 3.83  | 0.00                                       | 0.00 | 0.00                        | 0.00 | 0.00        | 0.00 | 0.00         | 0.00 |

| Temp<br>(°F) | PSI    | Hemihydrate CaSO <sub>4</sub> 0.5H <sub>2</sub> O |      | Anhydrate CaSO <sub>4</sub> |      | Calcium Fluoride |      | Zinc Carbonate |      | Lead Sulfide |      | Mg Silicate |      | Ca Mg Silicate |      | Fe Silicate |      |
|--------------|--------|---------------------------------------------------|------|-----------------------------|------|------------------|------|----------------|------|--------------|------|-------------|------|----------------|------|-------------|------|
|              |        | SI                                                | PTB  | SI                          | PTB  | SI               | PTB  | SI             | PTB  | SI           | PTB  | SI          | PTB  | SI             | PTB  | SI          | PTB  |
| 89.00        | 130.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 82.00        | 126.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 76.00        | 123.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 69.00        | 120.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 63.00        | 116.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 56.00        | 113.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 50.00        | 110.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 43.00        | 106.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 37.00        | 103.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |
| 31.00        | 100.00 | 0.00                                              | 0.00 | 0.00                        | 0.00 | 0.00             | 0.00 | 0.00           | 0.00 | 0.00         | 0.00 | 0.00        | 0.00 | 0.00           | 0.00 | 0.00        | 0.00 |

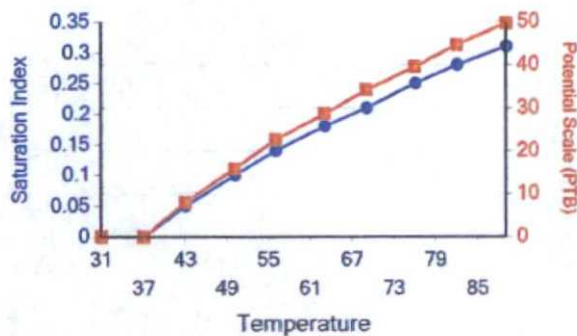


Water Analysis Report

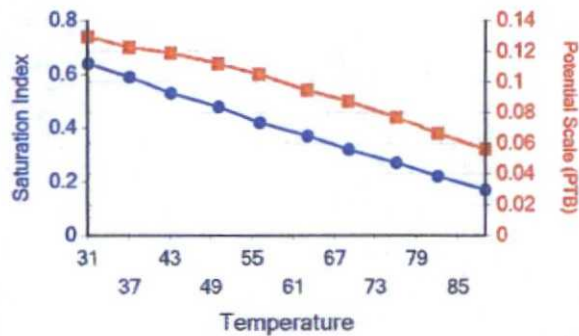
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate

These scales have positive scaling potential under final temperature and pressure: Barium Sulfate Iron Carbonate

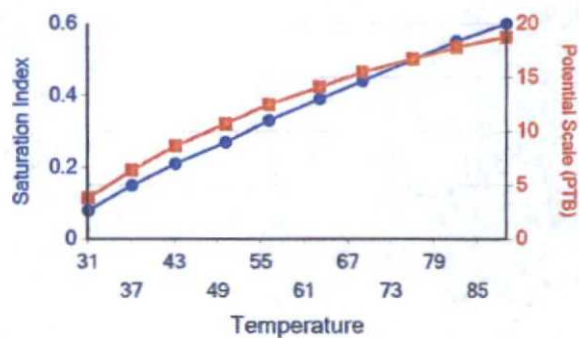
Calcium Carbonate



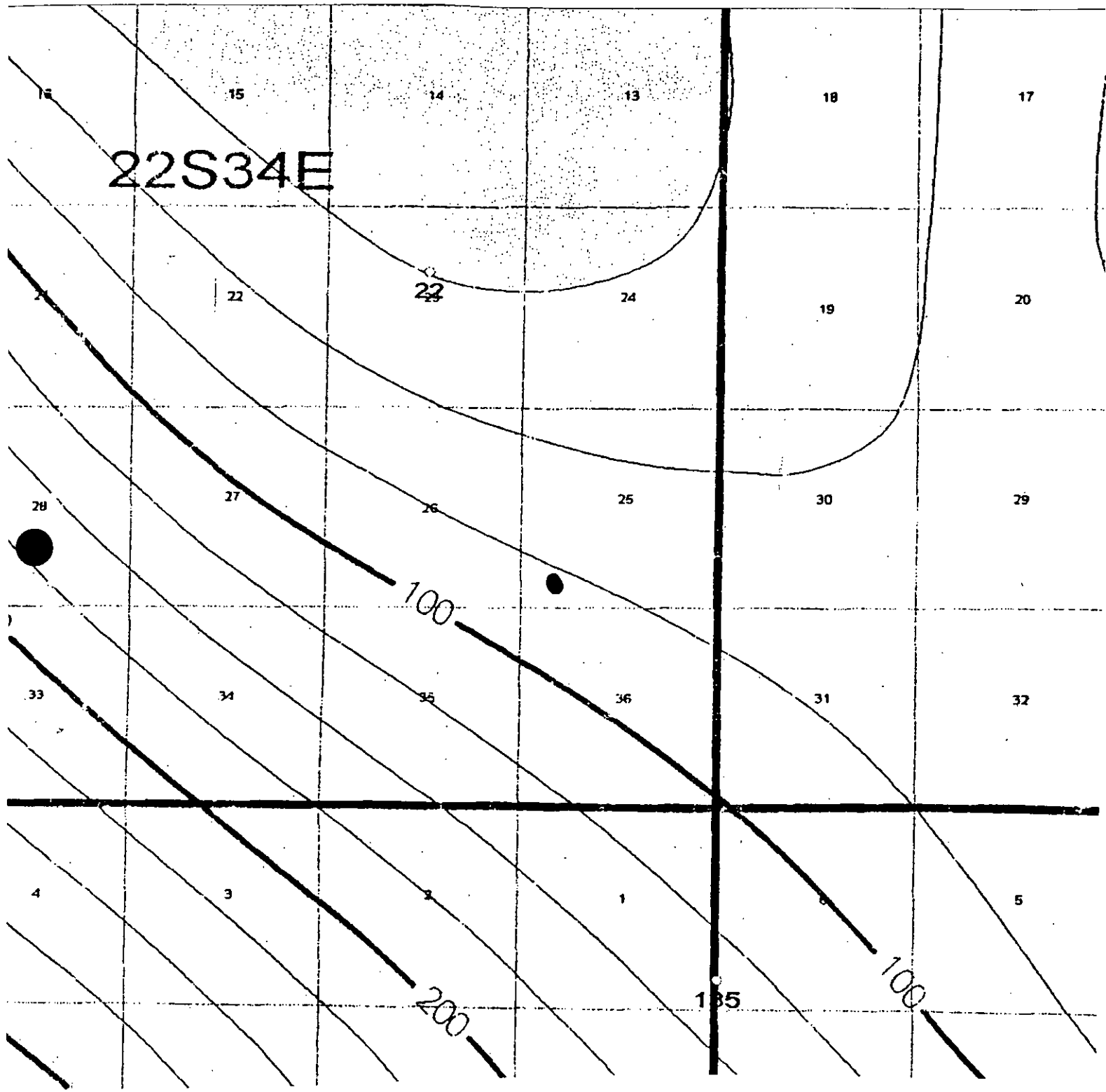
Barium Sulfate



Iron Carbonate



22S34E



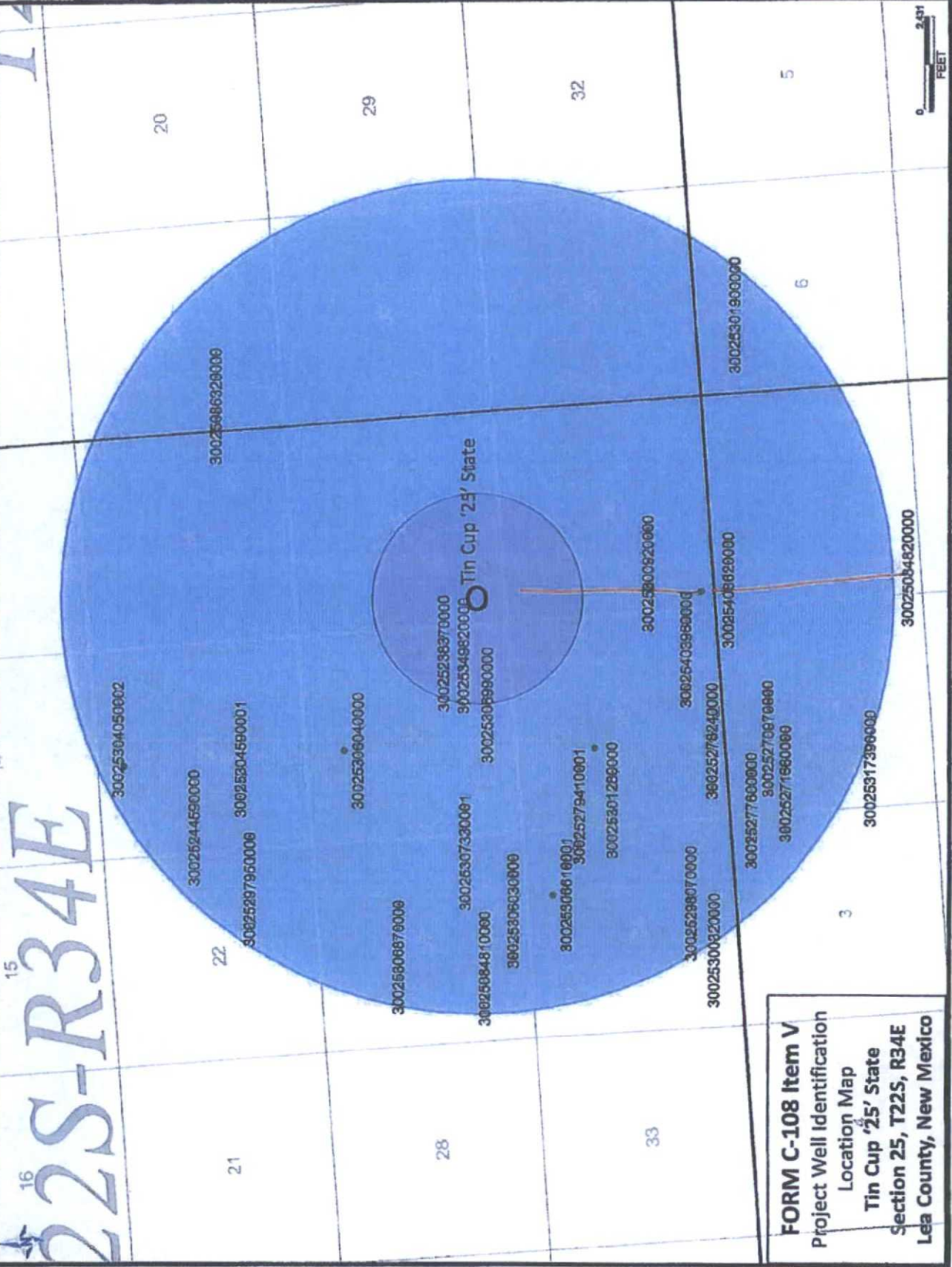
Proposed SWD

Groundwater Map





16 22S-R34E



FORM C-108 Item V  
Project Well Identification  
Location Map  
Tin Cup 25' State  
Section 25, T22S, R34E  
Lea County, New Mexico

## DISPOSAL WELL

|              |                  |   |                             |       |   |   |     |   |   |    |    |   |    |   |     |   |     |   |
|--------------|------------------|---|-----------------------------|-------|---|---|-----|---|---|----|----|---|----|---|-----|---|-----|---|
| 30-025-34982 | TIN CUP 25 STATE | 1 | GMT EXPLORATION COMPANY LLC | 12600 | O | N | Lea | S | M | 25 | 22 | S | 34 | E | 660 | S | 660 | W |
|--------------|------------------|---|-----------------------------|-------|---|---|-----|---|---|----|----|---|----|---|-----|---|-----|---|

## Wells within 1/2 mile radius of proposed SWD well

| API #        | PROPERTY NAME                   | #  | OPERATOR                    | TD    | TYPE | STAT | CO  | LAND | U/L | SEC | TWN |   | RNG |   | N/S  |   | E/W  |   | Dist |
|--------------|---------------------------------|----|-----------------------------|-------|------|------|-----|------|-----|-----|-----|---|-----|---|------|---|------|---|------|
| 30-025-41350 | MERCHANT LIVESTOCK 25 STATE COM | 2H | GMT EXPLORATION COMPANY LLC | 15935 | O    | A    | Lea | S    | C   | 25  | 22  | S | 34  | E | 40   | N | 1700 | W | 4696 |
| 30-025-40935 | MERCHANT LIVESTOCK 25 STATE COM | 1H | GMT EXPLORATION COMPANY LLC | 15959 | O    | A    | Lea | S    | D   | 25  | 22  | S | 34  | E | 20   | N | 380  | W | 4608 |
| 30-025-41450 | MERCHANT GAP 25 STATE COM       | 1H | GMT EXPLORATION COMPANY LLC | 15088 | O    | A    | Lea | S    | M   | 25  | 22  | S | 34  | E | 40   | S | 350  | W | 693  |
| 30-025-42084 | BANANA GAP 25 STATE COM         | 2H | GMT EXPLORATION COMPANY LLC | 0     | O    | N    | Lea | S    | N   | 25  | 22  | S | 34  | E | 33   | S | 1670 | W | 1186 |
| 30-025-23837 | MERCHANT B                      | 1  | PHILLIPS PETROLEUM COMPANY  | 13600 | O    | P    | Lea | F    | I   | 26  | 22  | S | 34  | E | 1980 | S | 660  | E | 1866 |
| 30-025-41353 | GODFATHER 36 STATE COM          | 2H | GMT EXPLORATION COMPANY LLC | 0     | O    | N    | Lea | S    | C   | 36  | 22  | S | 34  | E | 40   | N | 1670 | W | 4228 |
| 30-025-42083 | APPLE GAP 36 STATE COM          | 2H | GMT EXPLORATION COMPANY LLC | 0     | O    | N    | Lea | S    | C   | 36  | 22  | S | 34  | E | 99   | N | 1670 | W | 1283 |
| 30-025-41352 | MERCHANT GAP 36 STATE COM       | 1H | GMT EXPLORATION COMPANY LLC | 15974 | O    | A    | Lea | S    | D   | 36  | 22  | S | 34  | E | 40   | N | 350  | W | 765  |
| 30-025-40396 | PRYOR STATE COM                 | 1H | GMT EXPLORATION COMPANY LLC | 13327 | O    | A    | Lea | S    | M   | 36  | 22  | S | 34  | E | 330  | S | 430  | W | 5614 |
| 30-025-40844 | PRYOR STATE COM                 | 5H | GMT EXPLORATION COMPANY LLC | 0     | O    | Canc | Lea | S    | M   | 36  | 22  | S | 34  | E | 21   | S | 430  | W | 5922 |
| 30-025-40715 | PRYOR STATE COM                 | 2H | GMT EXPLORATION COMPANY LLC | 0     | O    | Canc | Lea | S    | N   | 36  | 22  | S | 34  | E | 20   | S | 1508 | W | 5980 |

## Wells vertical and horizontal wells with vertical portion of wellbore is within 1/2 mile

| API #        | PROPERTY NAME             | #  | OPERATOR                    | TD    | TYPE | STAT | CO  | LAND | U/L | SEC | TWN  | RNG  | N/S    | E/W   | Dist   |
|--------------|---------------------------|----|-----------------------------|-------|------|------|-----|------|-----|-----|------|------|--------|-------|--------|
| 30-025-41450 | MERCHANT GAP 25 STATE COM | 1H | GMT EXPLORATION COMPANY LLC | 15088 | O    | A    | Lea | S    | M   | 25  | 22 S | 34 E | 40 S   | 350 W | 693 1  |
| 30-025-23837 | MERCHANT B                | 1  | PHILLIPS PETROLEUM COMPANY  | 13600 | O    | P    | Lea | F    | I   | 26  | 22 S | 34 E | 1980 S | 660 E | 1866 2 |
| 30-025-41352 | MERCHANT GAP 36 STATE COM | 1H | GMT EXPLORATION COMPANY LLC | 15974 | O    | A    | Lea | S    | D   | 36  | 22 S | 34 E | 40 N   | 350 W | 765 3  |

## Horizontal wells were a portion of the horizontal lateral is within 1/2 mile

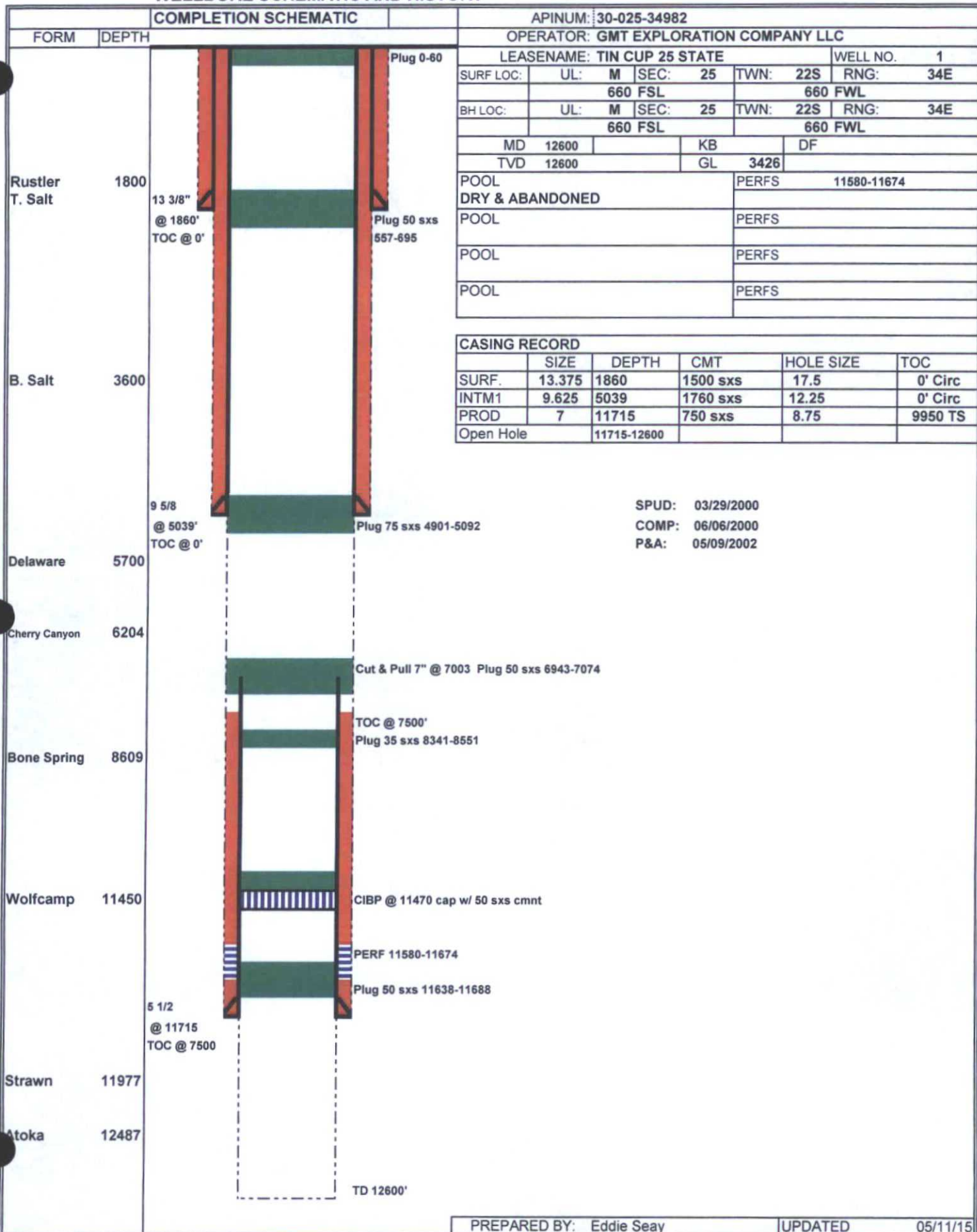
| API #        | PROPERTY NAME                   | #  | OPERATOR                    | TD    | TYPE | STAT | CO  | LAND | U/L | SEC | TWN |   | RNG |   | N/S |   | E/W  |   | Dist |
|--------------|---------------------------------|----|-----------------------------|-------|------|------|-----|------|-----|-----|-----|---|-----|---|-----|---|------|---|------|
| 30-025-41350 | MERCHANT LIVESTOCK 25 STATE COM | 2H | GMT EXPLORATION COMPANY LLC | 15935 | O    | A    | Lea | S    | C   | 25  | 22  | S | 34  | E | 40  | N | 1700 | W | 3    |
| 30-025-40935 | MERCHANT LIVESTOCK 25 STATE COM | 1H | GMT EXPLORATION COMPANY LLC | 15959 | O    | A    | Lea | S    | D   | 25  | 22  | S | 34  | E | 20  | N | 380  | W |      |
| 30-025-40396 | PRYOR STATE COM                 | 1H | GMT EXPLORATION COMPANY LLC | 13327 | O    | A    | Lea | S    | M   | 36  | 22  | S | 34  | E | 330 | S | 430  | W |      |

9 wells total  
7 active / 2 plugged *sig*

H. wells = BS at  
terminus  
depth



# WELLBORE SCHEMATIC AND HISTORY



PREPARED BY: Eddie Seay

UPDATED

05/11/15

### COMPLETION SCHEMATIC

OPERATOR: GMT EXPLORATION COMPANY LLC

|          |   |
|----------|---|
| WELL NO. | 1 |
|----------|---|

|  |         |         |
|--|---------|---------|
|  | 660 FSL | 660 FWL |
|--|---------|---------|

|  |         |         |
|--|---------|---------|
|  | 660 FSL | 660 FWL |
|--|---------|---------|

|    |       |  |    |    |
|----|-------|--|----|----|
| MD | 12600 |  | KB | DF |
|----|-------|--|----|----|

|     |       |    |      |
|-----|-------|----|------|
| TVD | 12600 | GL | 3426 |
|-----|-------|----|------|

|      |       |             |
|------|-------|-------------|
| POOL | PERFS | 11580-11674 |
|------|-------|-------------|

|                 |  |
|-----------------|--|
| DRY & ABANDONED |  |
|-----------------|--|

|      |       |
|------|-------|
| POOL | PERFS |
|------|-------|

|              |  |
|--------------|--|
| SWD:DELAWARE |  |
|--------------|--|

|      |       |
|------|-------|
| POOL | PERFS |
|------|-------|

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

|      |       |
|------|-------|
| POOL | PERFS |
|------|-------|

|  | SIZE | DEPTH | CMT | HOLE SIZE | TOC |
|--|------|-------|-----|-----------|-----|
|--|------|-------|-----|-----------|-----|

|       |        |      |          |      |         |
|-------|--------|------|----------|------|---------|
| SURF. | 13.375 | 1860 | 1500 sxs | 17.5 | 0' Circ |
|-------|--------|------|----------|------|---------|

|       |       |      |          |       |         |
|-------|-------|------|----------|-------|---------|
| INTM1 | 9.625 | 5039 | 1760 sxs | 12.25 | 0' Circ |
|-------|-------|------|----------|-------|---------|

|      |   |       |         |      |         |
|------|---|-------|---------|------|---------|
| PROD | 7 | 11715 | 750 sxs | 8.75 | 9950 TS |
|------|---|-------|---------|------|---------|

|           |             |  |  |  |
|-----------|-------------|--|--|--|
| Open Hole | 11715-12600 |  |  |  |
|-----------|-------------|--|--|--|

SPUD: 03/29/2000

COMP: 06/06/2000

P&A: 05/09/2002

COMP: 06/06/2000  
P&A: 05/09/2002

To Be Cased / No Open Hole; request

to Applicant for  
new design

~~75 SKS~~ 4901-5092

Plastic coated 2 7/8 tubing w/ pkr within 100' of casing shoe

Cut & Pull 7" @ 7003 Plug 50 sxs 6943-7074

TOC @ 7500'  
Plug 35 sxs 8341-8551

CIBP @ 11470 cap w/ 50 sxs cmnt

PERF 11580-11674

Plug 50 sxs 11638-11688

TD 12600'

PREPARED BY: Eddie Seay

UPDATED

05/11/15

# WELLBORE SCHEMATIC AND HISTORY

| COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      | APINUM: 30-025-41450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |                 |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|----------------|--------------------------------------|--|--|--|------------|-----------|-------|---------|----------|----------|-----------|-----|-------|---------|------|----------|-------|---------|----------|----------|---------|----------|----|---------|------|-----|-------|----------|-------|---------|------|-------|----|------|--|------|--|--|--|-------|------------------------------|--|--|--|----------------|------|--|--|--|-----------------|------|--|--|--|-------|------|--|--|--|-------|------|--|--|--|-------|------|--|--|--|-------|
| FORM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DEPTH                                                                                                                                                                                                                                | OPERATOR: GMT EXPLORATION COMPANY LLC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |                 |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| <div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="margin-bottom: 20px;"> <b>Rustler</b><br/>T. Salt<br/>1800 </div> <div style="margin-bottom: 20px;"> <b>B. Salt</b><br/>3650 </div> <div style="margin-bottom: 20px;"> <b>Delaware</b><br/>5715 </div> <div style="margin-bottom: 20px;"> <b>Bone Spring</b><br/>8585 </div> <div> <b>Wolfcamp</b><br/>(est. top)<br/>11400 </div> </div>                                                                                                           | <div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 20px;"> 13 3/8"<br/>@ 1843'<br/>TOC @ 0' </div> <div style="margin-bottom: 20px;"> 8 5/8<br/>@ 5107'<br/>TOC @ 0' </div> </div> | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="4">LEASENAME: MERCHANT GAP 25 STATE COM</td> <td>WELL NO. 1</td> </tr> <tr> <td>SURF LOC:</td> <td>UL: M</td> <td>SEC: 25</td> <td>TWN: 22S</td> <td>RNG: 34E</td> </tr> <tr> <td colspan="3">40 FSL</td> <td colspan="2">350 FWL</td> </tr> <tr> <td>BH LOC:</td> <td>UL: D</td> <td>SEC: 25</td> <td>TWN: 22S</td> <td>RNG: 34E</td> </tr> <tr> <td colspan="3">353 FNL</td> <td colspan="2">357 FWL</td> </tr> <tr> <td>MD</td> <td>15088</td> <td>TVD</td> <td>10384</td> <td>KB</td> </tr> <tr> <td>PBTD</td> <td>15088</td> <td>GL</td> <td colspan="2">3417</td> </tr> <tr> <td colspan="4">POOL</td> <td>PERFS</td> </tr> <tr> <td colspan="4">OJO CHISO;BONE SPRING, SOUTH</td> <td>10818-14990 MD</td> </tr> <tr> <td colspan="4">POOL</td> <td>10463-10391 TVD</td> </tr> <tr> <td colspan="4">POOL</td> <td>PERFS</td> </tr> <tr> <td colspan="4">POOL</td> <td>PERFS</td> </tr> <tr> <td colspan="4">POOL</td> <td>PERFS</td> </tr> <tr> <td colspan="4">POOL</td> <td>PERFS</td> </tr> </table> |          |                 |                | LEASENAME: MERCHANT GAP 25 STATE COM |  |  |  | WELL NO. 1 | SURF LOC: | UL: M | SEC: 25 | TWN: 22S | RNG: 34E | 40 FSL    |     |       | 350 FWL |      | BH LOC:  | UL: D | SEC: 25 | TWN: 22S | RNG: 34E | 353 FNL |          |    | 357 FWL |      | MD  | 15088 | TVD      | 10384 | KB      | PBTD | 15088 | GL | 3417 |  | POOL |  |  |  | PERFS | OJO CHISO;BONE SPRING, SOUTH |  |  |  | 10818-14990 MD | POOL |  |  |  | 10463-10391 TVD | POOL |  |  |  | PERFS | POOL |  |  |  | PERFS | POOL |  |  |  | PERFS | POOL |  |  |  | PERFS |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | LEASENAME: MERCHANT GAP 25 STATE COM                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |                 | WELL NO. 1     |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | SURF LOC:                                                                                                                                                                                                                            | UL: M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SEC: 25  | TWN: 22S        | RNG: 34E       |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 40 FSL                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | 350 FWL         |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | BH LOC:                                                                                                                                                                                                                              | UL: D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SEC: 25  | TWN: 22S        | RNG: 34E       |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 353 FNL                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | 357 FWL         |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | MD                                                                                                                                                                                                                                   | 15088                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | TVD      | 10384           | KB             |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | PBTD                                                                                                                                                                                                                                 | 15088                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | GL       | 3417            |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | POOL                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |                 | PERFS          |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | OJO CHISO;BONE SPRING, SOUTH                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |                 | 10818-14990 MD |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| POOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | 10463-10391 TVD |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| POOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | PERFS           |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| POOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | PERFS           |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| POOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | PERFS           |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| POOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | PERFS           |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="6">CASING RECORD</th> </tr> <tr> <th></th> <th>SIZE</th> <th>DEPTH</th> <th>CMT</th> <th>HOLE SIZE</th> <th>TOC</th> </tr> <tr> <td>SURF.</td> <td>13.375</td> <td>1843</td> <td>1150 sxs</td> <td>17.5</td> <td>0' Circ</td> </tr> <tr> <td>INTM1</td> <td>8.625</td> <td>5107</td> <td>1500 sxs</td> <td>11</td> <td>0' Circ</td> </tr> <tr> <td>PROD</td> <td>5.5</td> <td>15088</td> <td>1580 sxs</td> <td>7.875</td> <td>0' Circ</td> </tr> </table> |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |                 |                | CASING RECORD                        |  |  |  |            |           |       | SIZE    | DEPTH    | CMT      | HOLE SIZE | TOC | SURF. | 13.375  | 1843 | 1150 sxs | 17.5  | 0' Circ | INTM1    | 8.625    | 5107    | 1500 sxs | 11 | 0' Circ | PROD | 5.5 | 15088 | 1580 sxs | 7.875 | 0' Circ |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| CASING RECORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |                 |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | SIZE                                                                                                                                                                                                                                 | DEPTH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CMT      | HOLE SIZE       | TOC            |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| SURF.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 13.375                                                                                                                                                                                                                               | 1843                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1150 sxs | 17.5            | 0' Circ        |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| INTM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8.625                                                                                                                                                                                                                                | 5107                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1500 sxs | 11              | 0' Circ        |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| PROD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5.5                                                                                                                                                                                                                                  | 15088                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1580 sxs | 7.875           | 0' Circ        |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| <div style="display: flex; justify-content: space-between;"> <div> SPUD: 02/09/2014<br/>COMP: 04/03/2014 </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |                 |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |
| <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div> Perfs 10818-14990 MD<br/>Perfs 10463-10391 TVD </div> <div> 100 sxs acid soluble cmnt<br/>TD 15088 MD<br/>TD 10384 TVD </div> </div>                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |                 |                |                                      |  |  |  |            |           |       |         |          |          |           |     |       |         |      |          |       |         |          |          |         |          |    |         |      |     |       |          |       |         |      |       |    |      |  |      |  |  |  |       |                              |  |  |  |                |      |  |  |  |                 |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |      |  |  |  |       |

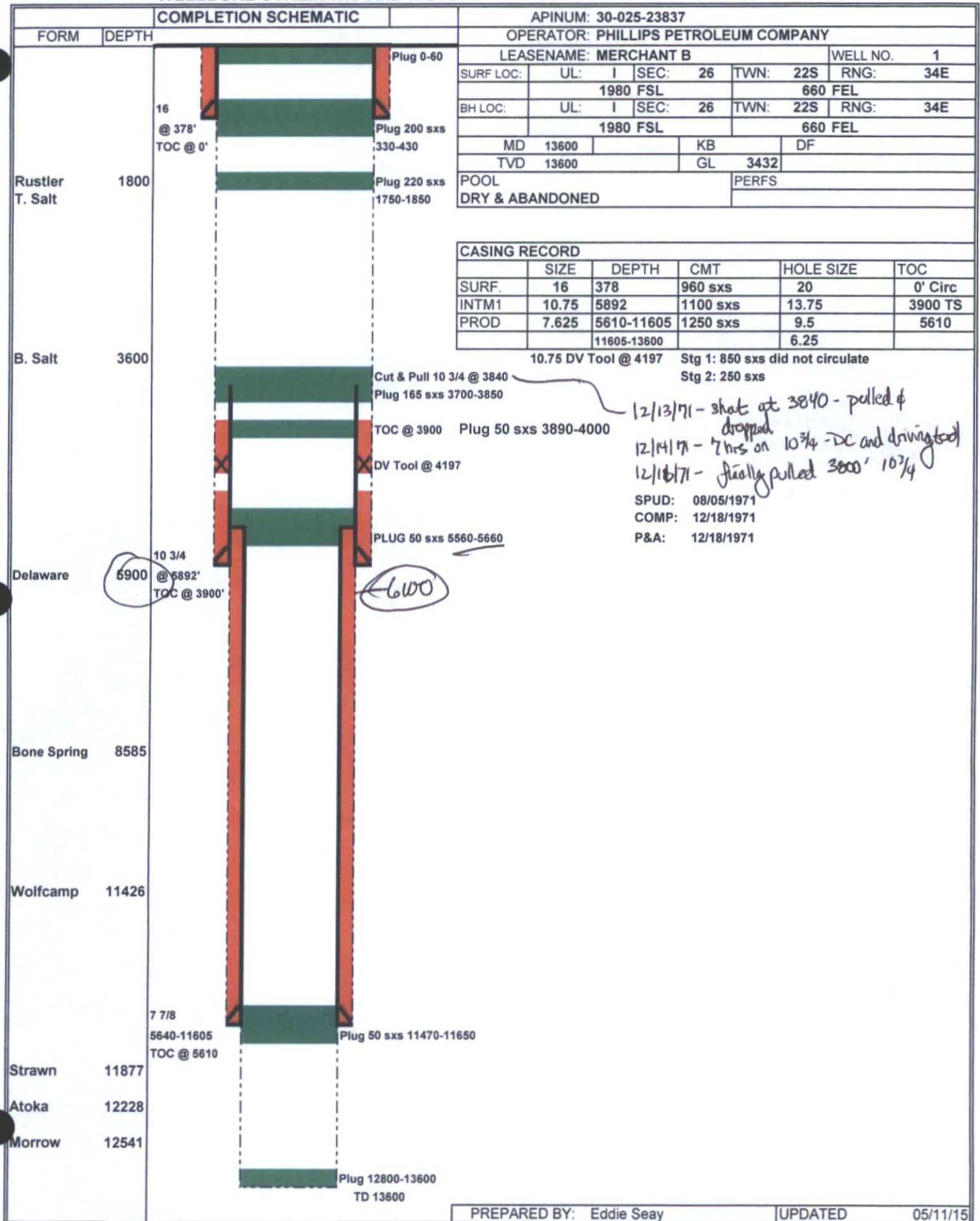
PREPARED BY: Eddie Seay

UPDATED

05/11/15



# WELLBORE SCHEMATIC AND HISTORY

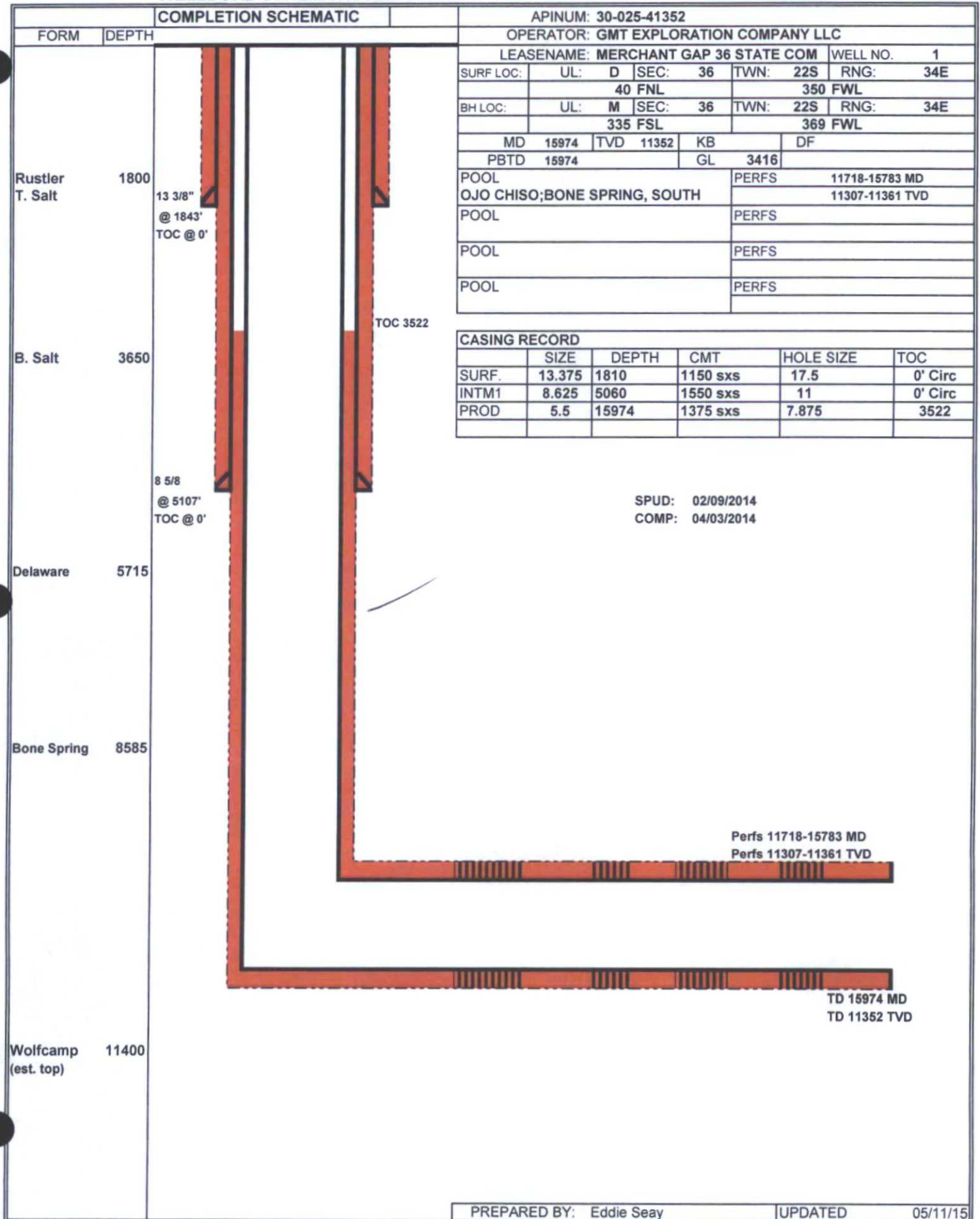


PREPARED BY: Eddie Seay

UPDATED

05/11/15

# WELLBORE SCHEMATIC AND HISTORY



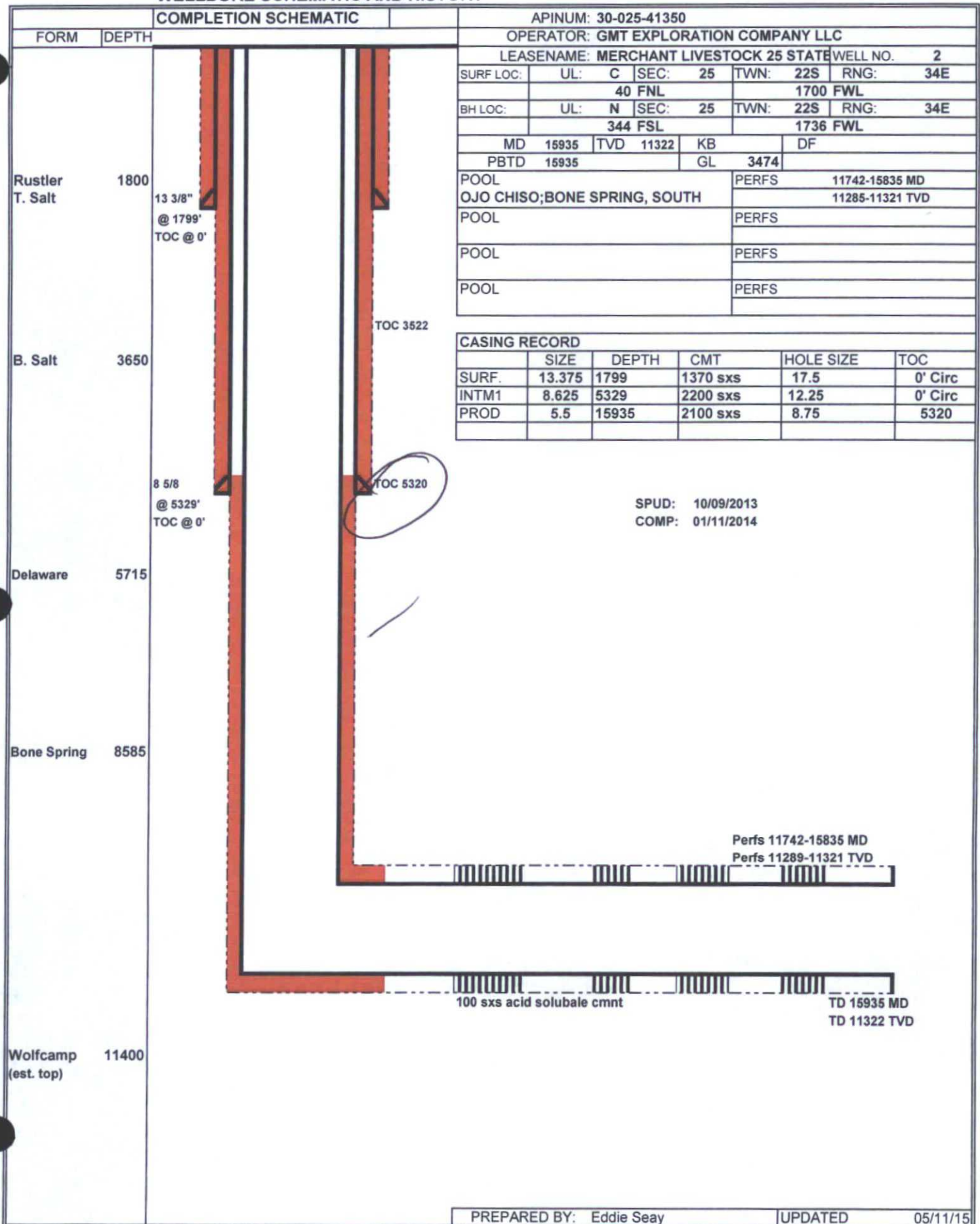
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05/11/15



# WELLBORE SCHEMATIC AND HISTORY

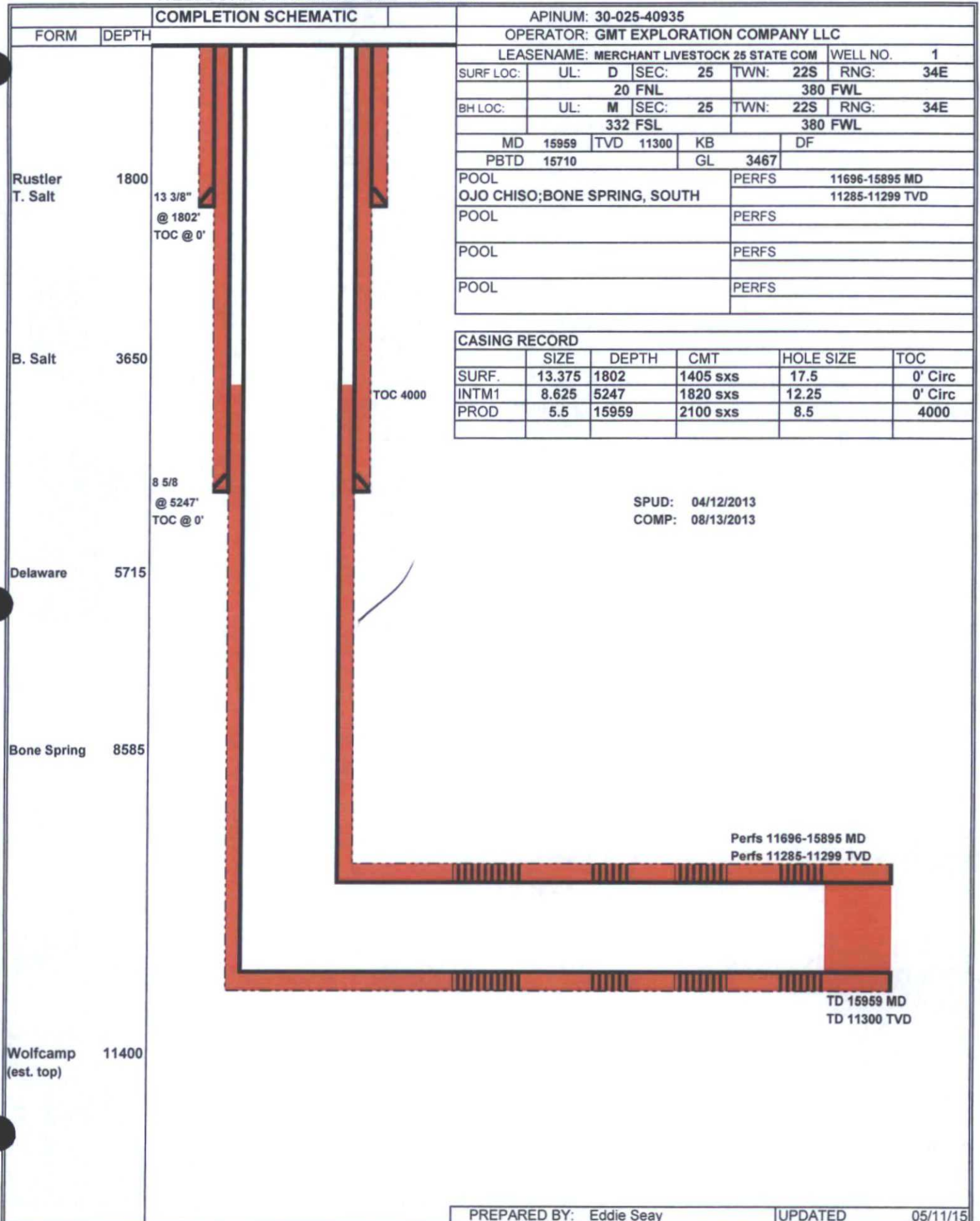


PREPARED BY: Eddie Seay

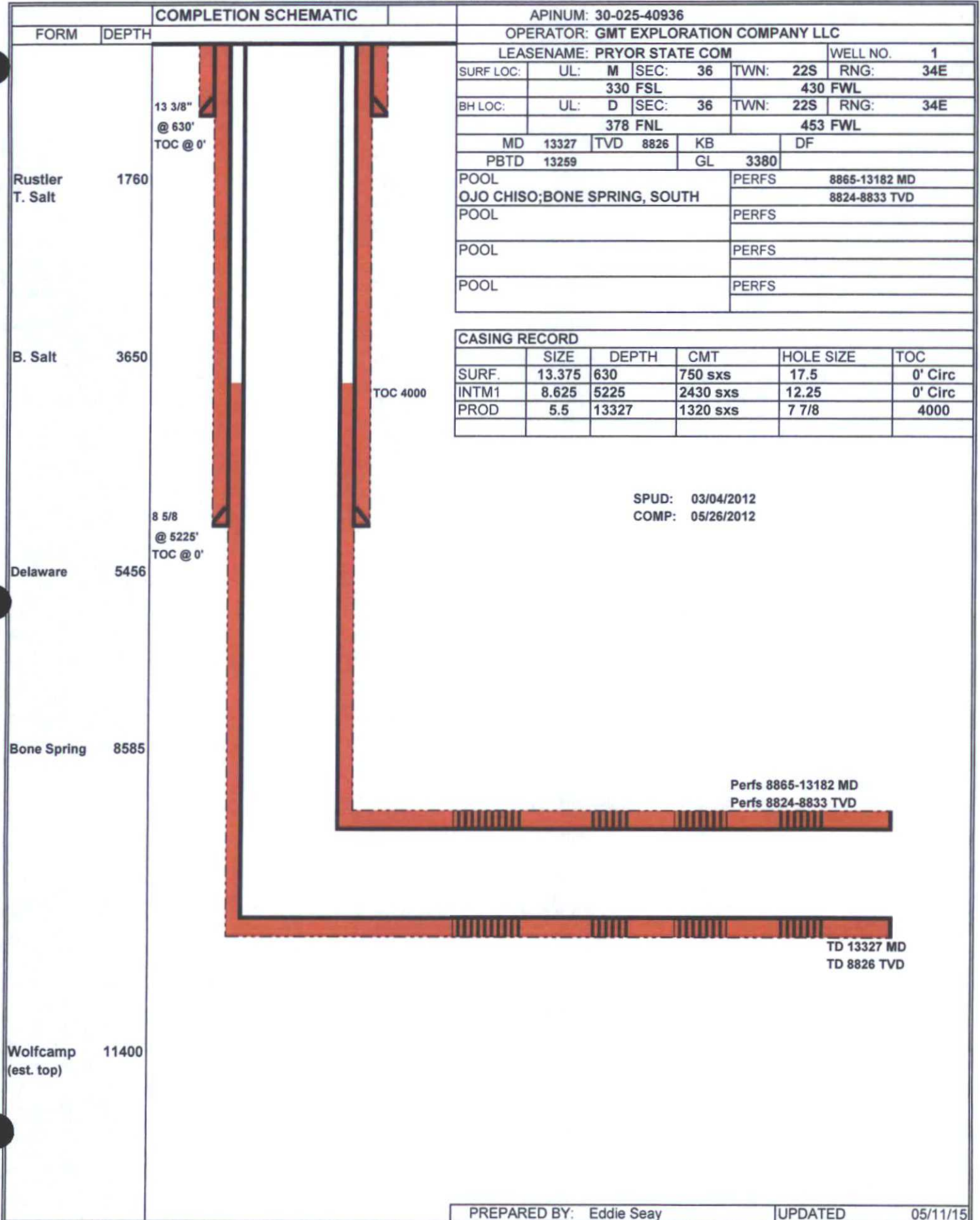
UPDATED

05/11/15

# WELLBORE SCHEMATIC AND HISTORY



# WELLBORE SCHEMATIC AND HISTORY





2015 / 08 / 12

Engineering and Geological Services Bureau, Oil Conservation Division  
1220 South St Francis Drive  
Santa Fe, NM, 87505  
Attention of Mr. Philip Goetze

Re: Tin Cup SWD #1

Mr. Goetze,

In accordance with item XII on GMT Explorations's C018 form filed for the above salt water disposal well, GMT has examined geologic and engineering data and found that there is no evidence of faulting or any other hydrologic connection between the proposed disposal zone and any underground sources of drinking water.

Should you have any questions, please email me [kkress@gmtexploration.com](mailto:kkress@gmtexploration.com), or dial (303)586-9281.

Respectfully,

GMT Exploration Company, LLC

Keith Kress  
Operations Engineer



## **LEGAL NOTICES**

### **LANDOWNER - MINERAL OWNER**

Commissioner of Public Lands - State Land Office  
310 Old Santa Fe Trail Box 1148  
Santa Fe, NM 87504-1148

### **MINERAL INTEREST & OFFSET OPERATORS**

Conoco Phillips  
3401 E. 30<sup>th</sup> St.  
Farmington, NM 87402

Merchant Livestock Co., Inc.  
P.O. Box 1105  
Eunice, NM 88231

Leaco New Mexico Exploration & Production, LLC  
(Apache Corporation)  
303 Veterans Airpark Lane, Suite 3000  
Midland, TX 79705

David Pace  
P.O. Box 2136  
Midland, TX 79702

BTA Oil Producers  
104 South Pecos  
Midland, TX 79701

The Salient Zaravona Energy Fund  
4265 San Felipe Street, Suite 1040  
Houston, TX 77027

Overton Energy Investments VI, LLC  
4265 San Felipe Street, Suite 1040  
Houston, TX 77027

COG Operating LLC  
550 W. Texas Ave., Suite 100  
Midland, TX 79701

Samson Resources Company  
2 West Second Street  
Tulsa, OK 74103

Joe Reynolds  
2333 50<sup>th</sup> Street #4  
Lubbock, TX 79421

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 Midland, TX 79705  
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 David Pace  
 PO Box 2136  
 Midland, TX 79702  
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 City, State, ZIP+4 Eunice, NM 88231

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 Joe Reynolds  
 Street, Apt. No., or PO Box No. 2333 50th Street #4  
 City, State, ZIP+4 Lubbock, TX 79421

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 City, State, ZIP+4 Tulsa, OK 74103

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 The Salient-Zaravona Energy Fund  
 Street, Apt. No., or PO Box No. 4265 San Felipe St., Ste. 1040  
 City, State, ZIP+4 Houston, TX 77027

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Sent To  
 COG Operating, LLC  
 Street, Apt. No., or PO Box No. 550 W. Texas Ave., Ste. 100  
 City, State, ZIP+4 Midland, TX 79701

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Sent To  
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 Street, Apt. No., or PO Box No. 4265 San Felipe St., Ste. 1040  
 City, State, ZIP+4 Houston, TX 77027

PS Form 3800, August 2006 See Reverse for Instructions

## LEGAL NOTICE

Pursuant to the rules and regulations of the Oil Conservation Division of the State of New Mexico, GMT Exploration Co., LLC, 1560 Broadway, Suite 2000, Denver, Colorado 80202, is filing a C-108, Application for Salt Water Disposal. The well being applied for is the Tin Cup "25" State #1 (API 30-025-34982), located in Unit M, Section 25, Township 22 South, Range 34 East, Lea Co., NM. The injection formation is the Delaware from 5039' to 6943' below surface. Expected maximum injection rate is 5,000 bpd., and the expected maximum injection pressure is 1000 psi or what the OCD allows. Any questions about the application can be directed to Eddie W. Seay, (575)392-2236, or any objection or request for hearing must be directed to the Oil Conservation Division, (505)476-3440, 1220 South Saint Francis Drive, Santa Fe, NM 87504, within fifteen (15) days.



**Affidavit of Publication**

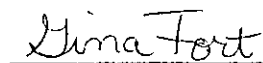
STATE OF NEW MEXICO     )  
                                      ) ss.  
COUNTY OF LEA            )

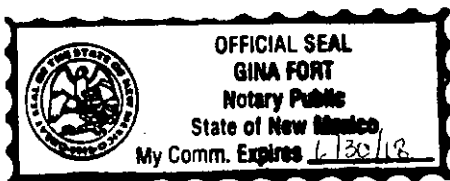
Joyce Clemens being first duly sworn on oath deposes and says that she is Advertising Manager of THE LOVINGTON LEADER, a thrice a week newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled Legal Notice was published in a regular and entire issue of THE LOVINGTON LEADER and not in any supplement thereof, for one (1) day(s), beginning with the issue of May 12, 2015 and ending with the issue of May 12, 2015.

And that the cost of publishing said notice is the sum of \$ 27.03 which sum has been (Paid) as Court Costs.

  
Joyce Clemens, Advertising Manager  
Subscribed and sworn to before me this 12th day of May, 2015.

  
Gina Fort  
Notary Public, Lea County, New Mexico  
My Commission Expires June 30, 2018



**LEGAL NOTICE**

Pursuant to the rules and regulations of the Oil Conservation Division of the State of New Mexico, GMT Exploration Co. LLC, 1560 Broadway, Suite 2000, Denver, Colorado 80202, is filing a C-108, Application for Salt Water Disposal. The well being applied for is the Tin Cup "25" State #1 (API 30-025-34982), located in Unit M, Section 25, Township 22 South, Range 34 East, Lea Co., NM. The injection formation is the Delaware from 5039' to 6943' below surface. Expected maximum injection rate is 5,000 bpd., and the expected maximum injection pressure is 1000 psi or what the OCD allows. Any questions about the application can be directed to Eddie W. Seay, (575)392-2236, or any objection or request for hearing must be directed to the Oil Conservation Division, (505)476-3440, 1220 South Saint Francis Drive, Santa Fe, NM 87504, within fifteen (15) days.

Published in the Lovington Leader May 12, 2015.



## C-108 Review Checklist:

Received 06/11/15 Add. Request: [2 sets] Reply Date: July 10 & August 13 Suspended: None [Ver 15]  
 ORDER TYPE: WFX / PMX / SWD Number: 1587 Order Date: 10/05/15 Legacy Permits/Orders: None

Well No. 1 Well Name(s): Tin Cup 25 State

API: 30-0 25-34982 Spud Date: 3/29/2000 New or Old: New (UIC Class II Primacy 03/07/1982)

Footages 660 FSL / 660 FWL Lot — or Unit M Sec 25 Tsp 22S Rge 34E County Lea

General Location: 19 miles WSW of Eunice / West of Antelope Ridge; Atoka (GFS) Pool No.: 70560  
Sans Simon Ridge and Bell & Cherry Wolfcamp

BLM 100K Map: Sal Operator: GMT Exploration Co., LLC OGRID: 260511 Contact: Eddie Seay

COMPLIANCE RULE 5.9: Total Wells: 23 Inactive: 0 Fincl Assur: OK Compl. Order? No IS 5.9 OK? Yes Date: 10/05/15

WELL FILE REVIEWED ☒ Current Status: P&A Planned - WC for Delaware - but elected for SWB well in support of BS  
2002

WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☒ After Conv. ☒ Logs in Imaging: "Triple Combo"

Planned Rehab Work to Well: Drill out plugs to 6740; set 5 1/2 casing to TD and cement casing; run tubing set

| Well Construction Details                                                                   |             | Sizes (in.)       |        | Setting Depths (ft)          |                        | Cement                                                                                  |           | Cement Top and Determination Method |      |
|---------------------------------------------------------------------------------------------|-------------|-------------------|--------|------------------------------|------------------------|-----------------------------------------------------------------------------------------|-----------|-------------------------------------|------|
|                                                                                             |             | Borehole / Pipe   |        |                              |                        | Sx or Cf                                                                                |           |                                     |      |
| Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/>            | Surface     | 17 1/2            | 13 3/8 | 0 to 2000                    | Stage Tool             | 1500                                                                                    | H95       | Cur to surface                      |      |
| Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/>            | Intern/Prod | 12 1/4            | 9 5/8  | 0 to 500                     |                        | 1025                                                                                    |           | Cur to surface                      |      |
| Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/>            | Intern/Prod | 8 3/4             | 7      | Original: 0 to 11715         | cut off in P&A at 2003 |                                                                                         |           | Calc. 750 SK                        |      |
| Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/>            | Prod/Liner  | 5 1/2             |        | 0 to 6420 (6720)             | None                   | 5100                                                                                    |           | CBL requested                       |      |
| Planned <input type="checkbox"/> or Existing <input type="checkbox"/>                       | Liner       |                   |        |                              |                        |                                                                                         |           |                                     |      |
| Planned <input checked="" type="checkbox"/> or Existing <input checked="" type="checkbox"/> | OH (PERF)   | Ext 11580 - 11674 |        | 5039 to 6943                 | Inj Length             |                                                                                         |           |                                     |      |
| Injection Lithostratigraphic Units:                                                         |             | Depths (ft)       |        | Injection or Confining Units |                        | Completion/Operation Details:                                                           |           |                                     |      |
| Adjacent Unit: Litho. Struc. Por.                                                           |             |                   |        | Capitan Reef                 | 4390                   | Drilled TD                                                                              | 12600     | PBTD                                |      |
| Confining Unit: Litho. Struc. Por.                                                          |             | +400              |        | Delaware Sand                | 2351                   | NEW TD                                                                                  |           | NEW PBTD                            | 6720 |
| Proposed Inj Interval TOP:                                                                  |             | 6100              |        | L. Bell Canyon               | 6272                   | NEW Open Hole <input type="checkbox"/> or NEW Perfs <input checked="" type="checkbox"/> |           |                                     |      |
| Proposed Inj Interval BOTTOM:                                                               |             | 6700              |        | Cherry Canyon                | 7220                   | Tubing Size                                                                             | 2 1/8 in. | Inter Coated?                       | Yes  |
| Confining Unit: Litho. Struc. Por.                                                          |             | +500              |        | Brushy Canyon                | 8609                   | Proposed Packer Depth                                                                   |           | ft                                  |      |
| Adjacent Unit: Litho. Struc. Por.                                                           |             |                   |        | Bone Spring                  |                        | Min. Packer Depth                                                                       | 6000      | (100-ft limit)                      |      |
|                                                                                             |             |                   |        |                              |                        | Proposed Max. Surface Press.                                                            |           | psi                                 |      |
|                                                                                             |             |                   |        |                              |                        | Admin. Inj. Press.                                                                      | 1220      | (0.2 psi per ft)                    |      |

## AOR: Hydrologic and Geologic Information

POTASH: R-111 (PNA) Noticed? NA BLM Sec Ord NA WIPP NA Salt/Salado T: — B: 3630 NW: Cliff House fm —

FRESH WATER: Aquifer Capitan Alluvial delaware Depth 1050 HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: Capitan CAPITAN REEF: thru ☒ adj ☐ NAO ☐ No. Wells within 1-Mile Radius? 0 FW Analysis ☐

Disposal Fluid: Formation Source(s) Bone Spring / WC / Delaware Analysis? Yes On Lease ☐ Operator Only ☒ or Commercial ☒

Disposal Int: Inject Rate (Avg/Max BWPD): 800/5000 Protectable Waters? No Source: Water sample System: Closed ☒ or Open ☐

HC Potential: Producing Interval? Possible Formerly Producing? No Method: Logs/DST/P&A/Other Historical 2-Mile Radius Pool Map ☒

AOR Wells: 1/2-M Radius Map? Yes Well List? Yes Total No. Wells Penetrating Interval: 9 Horizontals? 7

Penetrating Wells: No. Active Wells 7 Num Repairs? 0 on which well(s)? — Diagrams? Yes

Penetrating Wells: No. P&A Wells 2 Num Repairs? 0 on which well(s)? — Diagrams? Yes

NOTICE: Newspaper Date 05/12/2015 Mineral Owner SLO Surface Owner SLO N. Date 05/13/15

RULE 26.7(A): Identified Tracts? Yes Affected Persons: BTA Oil Producers Samson Resources, Apache, David Pace, Conoco Phillips, Merchant Livestock, Reynolds' COG, Overton Energy N. Date 05/13/15

Order Conditions: Issues: HC potential; possible washout of cement for 5 1/2 in Capitan.

Add Order Cond: Swab / production test; CBL for 5 1/2 casing

## Goetze, Phillip, EMNRD

---

**From:** Goetze, Phillip, EMNRD  
**Sent:** Friday, July 10, 2015 1:25 PM  
**To:** 'Marissa Walters'  
**Cc:** McMillan, Michael, EMNRD; Jones, William V, EMNRD; Eddie Seay (seay04@leaco.net)  
**Subject:** GMT Exploration C-108 Application: Tin Cup 25 State No. 1

Tin Cup 25 State No. 1; API 30-025-34982; Application for Injection Authority into the Delaware

Ms. Walters:

You contacted Will Jones with regards to GMT's application for the Tin Cup 25 No. 1. I have completed a cursory review of the application and find the following issues need to be addressed before review may be continued:

1. OCD will no longer consider open-hole completions in the Delaware Mountain Group as a result of continued episodes of injection migrating out of what has been identified as the "Delaware formation". Please modify the well completion to be cased and cemented for the injection interval.
2. The USGS, Texas Bureau of Economic Geology, and the New Mexico Bureau of Geology and Mineral Resources have long recognized the Delaware Mountain Group as divided into three distinct formations. The application needs to provide a better definition of the lithology for the injection interval and the associated confining layer. This is especially important since the application identifies the top of Delaware as both 5700 feet and 5150 feet (the proposed well diagram vs. the description provided in Section VIII of the application). This would indicate that application is being made for an injection interval which does not correlate to the stratigraphy of the well's location. Additionally, there is production to the southwest of the well location in the Brushy Canyon formation. Is the proposed interval to include this formation, or the lower portion which has been developed in recent plays?
3. The top of the proposed injection interval is at the lower contact of (or, based on the GR log response, within) the Capitan reef. The reef and corresponding aquifer is identified as a protectable water source. The application will have support the selection of the injection interval so that there is no potential for injection to migrate into this ground water source, or the application will be modified to provide vertical separation from the Capitan.
4. The affirmative statement for Section XII must be made by a qualified individual as if this application were to be submitted as an exhibit before division or commission hearing.
5. Water analysis for disposal fluids appears to be somewhat disjointed. GMT states that initial disposal will be from the operator's wells in the vicinity. Review of GMT wells for this area shows primarily Bone Spring completions. The summary of water analyses (Attachment D) has no Bone Spring chemistry among the examples provided and the attached analysis shows a sample (unknown as to source) with only 709 ppm chloride with a specific gravity of 1.00? This sample would be the cleanest analytical result for a Bone Spring producing well ever submitted. Please confirm the source of the analysis or provide results from one of the proposed GMT source wells.

Please contact me with any questions regarding either the requested information or the application. The application will be suspended from the process review until the requested information is received. Additional notification will not be required as long as the proposed injection interval is not expanded. PRG

Phillip R. Goetze, P.G.  
Engineering and Geological Services Bureau, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
O: 505.476.3466 F: 505.476.3462  
phillip.goetze@state.nm.us

1  
Hugo Cartawa  
07/17/15 - 303,910,0581



RECEIVED OGD

2015 AUG 18 P 3: 07

August 13, 2015

Engineering and Geological Services Bureau,  
1220 South St Francis Drive  
Santa Fe, NM, 87505  
Attention of Mr. Phillip Goetze

Re: Tin Cup "25" SWD

Mr. Goetze,

Thank you for your recent correspondence outlining issues with GMT's application for SWD in the above captioned well.

Attached, you will find a package addressing your issues in order and resolving as appropriate with corrections to the form or plans to change our strategy for completing and equipping this well.

Should you have any questions regarding this supplemental information package please don't hesitate to contact me at the numbers listed below or by return email.

Thank you, and best regards,

Keith Kress  
GMT Exploration, LLC  
Suite 2000, 1560 Broadway  
Denver, CO, 80202

**Keith Kress**

---

**From:** Marissa Walters  
**Sent:** Friday, July 10, 2015 1:38 PM  
**To:** Hugo Cartaya; Keith Kress; 335; Sarah Heger  
**Subject:** Fwd: GMT Exploration C-108 Application: Tin Cup 25 State No. 1

Good Afternoon Team,

I called the NMOCD yesterday in regards to the status of the Tin Cup SWD. Below are the issues that need to be addressed. I have copied Mike and Sarah because of number 1 & 2, I figured they were the best to assist with this. Please let me know how you would like to proceed.

Thanks!

Marissa Walters  
*Executive Assistant/ Geotech*  
**GMT Exploration Company**  
**1560 Broadway Suite 2000**  
**Denver, CO 80202**  
**Direct: 303.586.9275**  
[mwalters@gmtexploration.com](mailto:mwalters@gmtexploration.com)

----- Forwarded message -----

**From:** Goetze, Phillip, EMNRD <[Phillip.Goetze@state.nm.us](mailto:Phillip.Goetze@state.nm.us)>  
**Date:** Fri, Jul 10, 2015 at 1:25 PM  
**Subject:** GMT Exploration C-108 Application: Tin Cup 25 State No. 1  
**To:** Marissa Walters <[mwalters@gmtexploration.com](mailto:mwalters@gmtexploration.com)>  
**Cc:** "McMillan, Michael, EMNRD" <[Michael.McMillan@state.nm.us](mailto:Michael.McMillan@state.nm.us)>, "Jones, William V, EMNRD" <[WilliamV.Jones@state.nm.us](mailto:WilliamV.Jones@state.nm.us)>, "Eddie Seay ([seay04@leaco.net](mailto:seay04@leaco.net))" <[seay04@leaco.net](mailto:seay04@leaco.net)>

Tin Cup 25 State No. 1; API 30-025-34982; Application for Injection Authority into the Delaware

Ms. Walters:

You contacted Will Jones with regards to GMT's application for the Tin Cup 25 No. 1. I have completed a cursory review of the application and find the following issues need to be addressed before review may be continued:

1. OCD will no longer consider open-hole completions in the Delaware Mountain Group as a result of continued episodes of injection migrating out of what has been identified as the "Delaware formation". Please modify the well completion to be cased and cemented for the injection interval.

PLEASE SEE MODIFIED PROPOSED<sup>1</sup> WELL BORE DIAGRAM



2. The USGS, Texas Bureau of Economic Geology, and the New Mexico Bureau of Geology and Mineral Resources have long recognized the Delaware Mountain Group as divided into three distinct formations. The application needs to provide a better definition of the lithology for the injection interval and the associated confining layer. This is especially important since the application identifies the top of Delaware as both 5700 feet and 5150 feet (the proposed well diagram vs. the description provided in Section VIII of the application). This would indicate that application is being made for an injection interval which does not correlate to the stratigraphy of the well's location. Additionally, there is production to the southwest of the well location in the Brushy Canyon formation. Is the proposed interval to include this formation, or the lower portion which has been developed in recent plays? PLEASE SEE GEOLOGIC, ITEM VIII ON C-108 ↑

3. The top of the proposed injection interval is at the lower contact of(or, based on the GR log response, within) the Capitan reef. The reef and corresponding aquifer is identified as a protectable water source. The application will have support the selection of the injection interval so that there is no potential for injection to migrate into this ground water source, or the application will be modified to provide vertical separation from the Capitan.

4. The affirmative statement for Section XII must be made by a qualified individual as if this application were to be submitted as an exhibit before division or commission hearing. SUPPLIED AS A RESULT OF CONFIRMATION WITH TEAM AT GMT

5. Water analysis for disposal fluids appears to be somewhat disjointed. GMT states that initial disposal will be from the operator's wells in the vicinity. Review of GMT wells for this area shows primarily Bone Spring completions. The summary of water analyses (Attachment D) has no Bone Spring chemistry among the examples provided and the attached analysis shows a sample (unknown as to source) with only 709 ppm chloride with a specific gravity of 1.00? This sample would be the cleanest analytical result for a Bone Spring producing well ever submitted. Please confirm the source of the analysis or provide results from one of the proposed GMT source wells. DELAWARE SAMPLE INCLUDED (FOR INJECTION)

3 BONE SPRINGS INCLUDED: AVALON, 2nd Bone + 3rd Bone.

Please contact me with any questions regarding either the requested information or the application. The application will be suspended from the process review until the requested information is received. Additional notification will not be required as long as the proposed injection interval is not expanded. PRG

Phillip R. Goetze, P.G.

Engineering and Geological Services Bureau, Oil Conservation Division

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

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# GMT EXPLORATION COMPANY LLC

ACQUISITIONS • EXPLORATION • PRODUCTION

June 1, 2015

New Mexico Oil Conservation Division  
Engineering Bureau  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Dear Sir or Madam,

Enclosed please find one original and one copy of GMT Exploration's Application for Authorization to Inject. Please let me know if you have any questions.

Sincerely,

Hugo Cartaya  
Reservoir Engineering Manager

RECEIVED 007  
JUN 16 10 30 AM '15  
June 6 - Sat.

