

Arrowhead Grayburg Unit  
C-108  
Index Reference

<u>Reference Item</u>	<u>Subject</u>
III	Typical Injection Well Schematics
V	Area Map
VIa	Area of Review Data Tables
VIb	Well Schematics - Inside Unit Area
VIc	Well Schematics - Outside Unit Area
VI d	Well Schematics - P&A'd Wells
VII	Proposed Operation
VIII	Geologic Data
IX	Stimulation Program
X	Injection Wells Without Logs
XI	Fresh Water Analysis
XII	Affirmative Statement
XIV	Notice

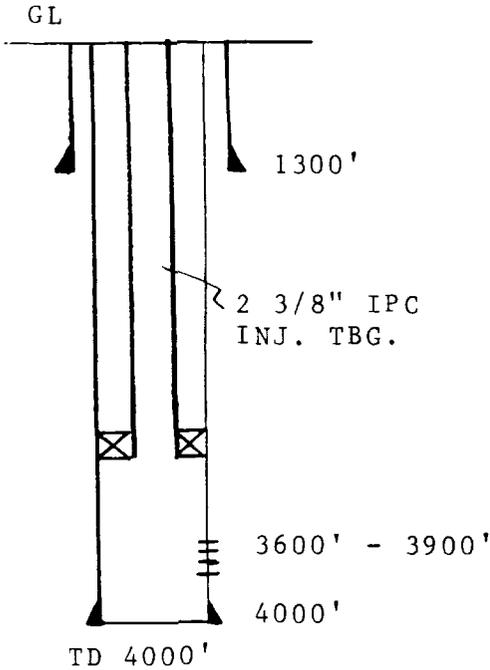
INJECTION WELL DATA SHEET

Chevron U.S.A. Inc. Arrowhead Grayburg Unit  
 OPERATOR LEASE

WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE

Proposed new injection well.

SCHEMATICS



TUBULAR DATA

Surface Casing

Size 8-5/8 " Cemented with 800 sx  
 TOC Surf feet determined by Circ.  
 Hole size 12-1/4 "

Long String

Size 5-1/2 " Cemented with 800 sx  
 TOC Surf feet determined by Circ.  
 Hole size 7-7/8 "  
 Total Depth 4000 '

Injection Interval

3600 feet to 3900 feet  
 (perforated)

Tubing size 2-3/8 " lined with IPC set in a Nickel Plated Baker Model AD-1 Tension  
 (Material) (Brand and Model)  
 packer at 3500 feet (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Arrowhead
- Is this a new well drilled for injection?  Yes  No  
 If no, for what purpose was the well originally drilled? \_\_\_\_\_
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

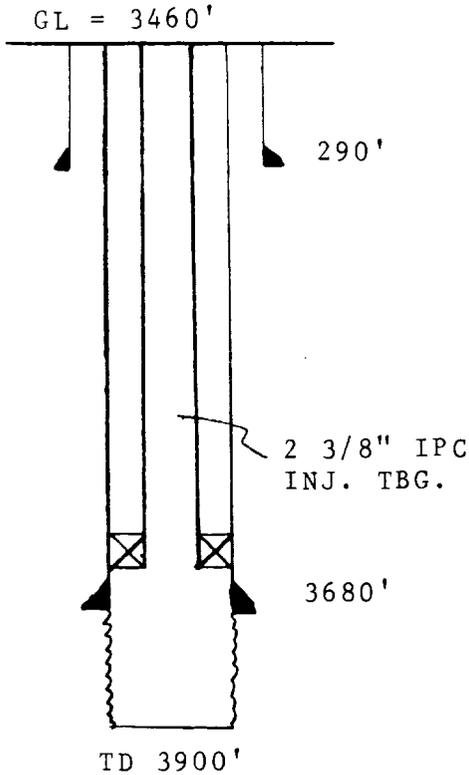
**INJECTION WELL DATA SHEET**

Chevron U.S.A. Inc. Arrowhead Grayburg Unit  
 OPERATOR LEASE

WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE  
 Two strings casing with open hole.

SCHEMATICS

TUBULAR DATA



Surface Casing

Size 9-5/8" Cemented with 215 sx  
 TOC Surf feet determined by Circ.  
 Hole size 11"

Long String

Size 5-1/2" Cemented with 400 sx  
 TOC 1546 feet determined by Calc.  
 Hole size 7-7/8"  
 Total Depth 3900'

Injection Interval

3680 feet to 3900 feet  
 (open hole)

Tubing size 2-3/8" lined with IPC set in a Nickel Plated Baker Model AD-1 Tension  
 (Material) (Brand and Model)  
3580 packer at 3580 feet (or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Grayburg
2. Name of Field or Pool (if applicable) Arrowhead
3. Is this a new well drilled for injection? Yes  No  
 If no, for what purpose was the well originally drilled? Oil Production
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
5. Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

INJECTION WELL DATA SHEET

Chevron U.S.A. Inc.  
OPERATOR

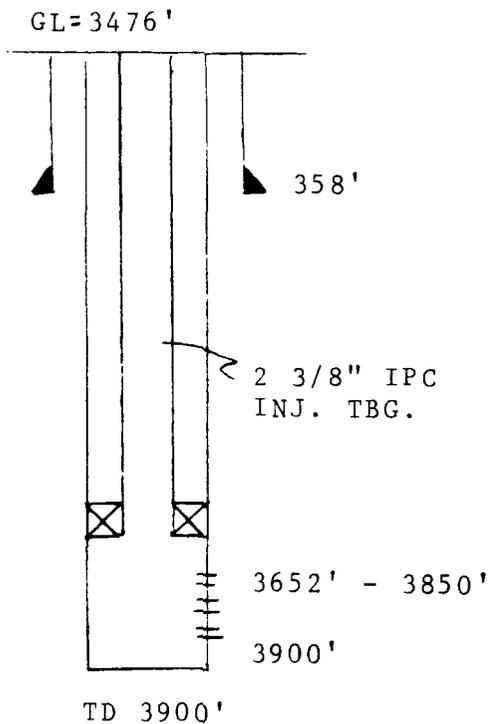
Arrowhead Grayburg Unit  
LEASE

WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE

Two strings casing with casing perforations.

SCHEMATICS

TUBULAR DATA



Surface Casing

Size 8-5/8"  
TOC Surf  
Hole size 11"

Cemented with 200 sx  
feet determined by Circ.

Long String

Size 5-1/2"  
TOC 2153'  
Hole size 7-7/8"  
Total Depth 3900'

Cemented with 425 sx  
feet determined by TS

Injection Interval

3652 feet to 3850 feet  
(perforated)

Tubing size 2-3/8" lined with IPC set in a Nickel Plated Baker Model AD-1 Tension  
(Material) (Brand and Model)  
packer at 3560 feet (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Arrowhead
- Is this a new well drilled for injection? Yes  No  
If no, for what purpose was the well originally drilled? Oil Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

INJECTION WELL DATA SHEET

Chevron U.S.A. Inc.  
OPERATOR

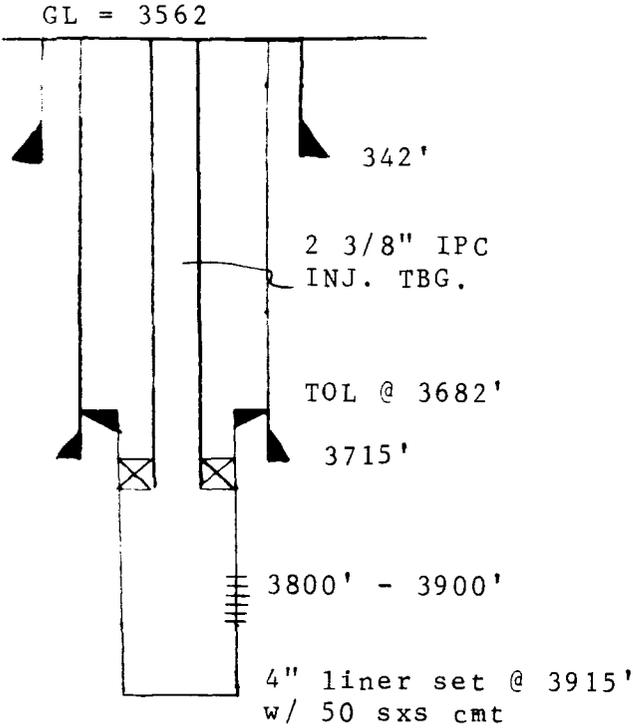
Arrowhead Grayburg Unit  
LEASE

WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE

Two strings casing with liner.

SCHEMATICS

TUBULAR DATA



Surface Casing

Size 10-3/4 "  
TOC Surf  
Hole size 12-1/4 "

Cemented with 250 sx  
feet determined by Circ.

Long String

Size 5-1/2 "  
TOC Surface  
Hole size 6-1/4 "  
Total Depth 3930 '

Cemented with 900 sx  
feet determined by Calc.

Injection Interval

3800 feet to 3900 feet  
(perforated)

TD 3915'

Tubing size 2-3/8 " lined with IPC set in a Nickel Plated Baker Model AD-1 Tension  
(Material) (Brand and Model)  
3700 packer at 3700 feet (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Arrowhead
- Is this a new well drilled for injection? Yes  No  
If no, for what purpose was the well originally drilled? Oil Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

INJECTION WELL DATA SHEET

Chevron U.S.A. Inc.  
OPERATOR

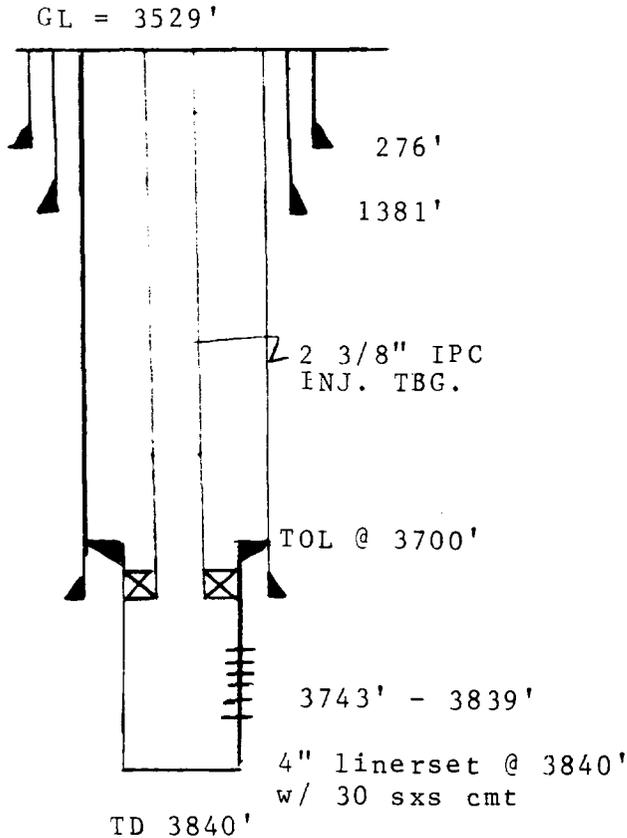
Arrowhead Grayburg Unit  
LEASE

WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE

Three strings with liner.

SCHEMATICS

TUBULAR DATA



Surface Casing

Size 10-3/4 "  
TOC Surf  
Hole size 15"

Cemented with 225 sx  
feet determined by Circ.

Intermediate Casing

Size 7-5/8 "  
TOC Surface  
Hole size 9-7/8"

Cemented with 425 sx  
feet determined by Calc

Long String

Size 5-1/2 "  
TOC Surface  
Hole size 6-3/4"  
Total Depth 3840'

Cemented with 425 sx  
feet determined by Calc.

Injection Interval

3743 feet to 3839 feet  
(perforated)

Tubing size 2-3/8" lined with IPC set in a Nickel Plated Baker Model AD-1 Tension  
(Material) (Brand and Model)  
packer at 3650 feet (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Arrowhead
- Is this a new well drilled for injection? Yes  No  
If no, for what purpose was the well originally drilled? Oil Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Matix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

INJECTION WELL DATA SHEET

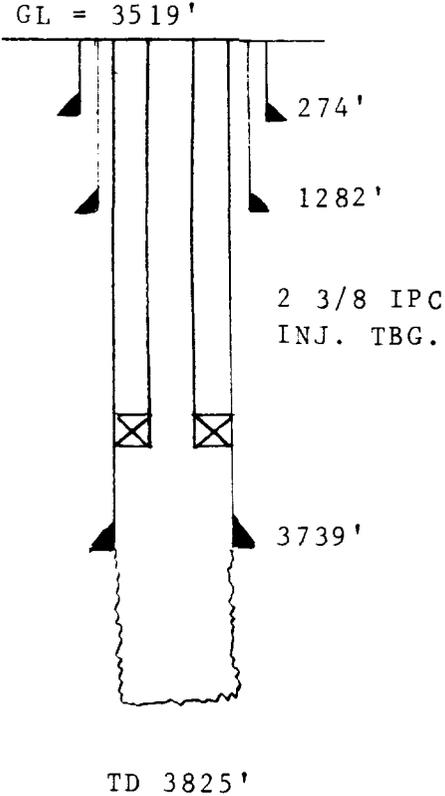
Chevron U.S.A. Inc.  
 OPERATOR

Arrowhead Grayburg Unit  
 LEASE

WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE  
 Three strings with open hole.

SCHEMATICS

TUBULAR DATA



Surface Casing

Size 10-3/4" Cemented with 225 sx  
 TOC Surf feet determined by Calc.  
 Hole size 13-3/4"

Intermediate Casing

Size 7-5/8" Cemented with 425 sx  
 TOC Surf feet determined by Calc.  
 Hole size 9-7/8"

Long String

Size 5-1/2" Cemented with 425 sx  
 TOC Surf feet determined by Calc.  
 Hole size 6-3/4"  
 Total Depth 3825'

Injection Interval

3739 feet to 3825 feet  
 (open hole)

Tubing size 2-3/8" lined with IPC set in a Nickel Plated Baker Model AD-1 Tension  
 (Material) (Brand and Model)  
3640 packer at 3640 feet (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Arrowhead
- Is this a new well drilled for injection? Yes  No  
 If no, for what purpose was the well originally drilled? Oil Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

INJECTION WELL DATA SHEET

Chevron U.S.A. Inc.  
OPERATOR

Arrowhead Grayburg Unit  
LEASE

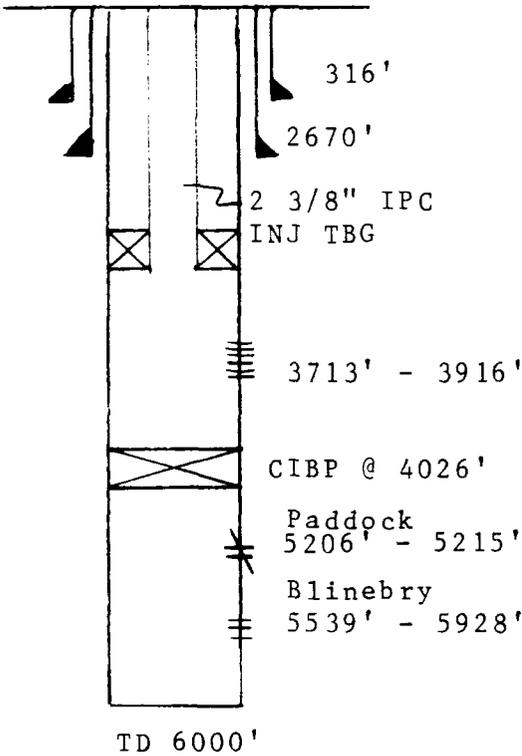
WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE

Three strings with perforations.

SCHEMATICS

TUBULAR DATA

GL = 3525'



Surface Casing

Size 12-3/4 "  
TOC Surf  
Hole size 17-1/2"

Cemented with 375 sx  
feet determined by Circ.

Intermediate Casing

Size 8-5/8 "  
TOC Surf  
Hole size 11"

Cemented with 320 sx  
feet determined by Circ.

Long String

Size 5-1/2 "  
TOC 900  
Hole size 7-7/8"  
Total Depth 6000'

Cemented with 800 sx  
feet determined by CBL

Injection Interval

3713 feet to 3916 feet  
(perforated)

Tubing size 2-3/8" lined with IPC set in a Nickel Plated Baker Model AD-1 Tension  
(Material) (Brand and Model)  
packer at 3620 feet (or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Arrowhead
- Is this a new well drilled for injection? Yes  No  
If no, for what purpose was the well originally drilled? Oil Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Yes, Paddock 5206'-5215', squeezed with 100 sacks cement  
Blinebry 5539'-5928', CIBP @ 4026'
- Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.