# ORIGINAL

SIDE ONE

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL AND LEASE

API NO. 15- 097-21,297-00-00

County KIOWA

200'N NW SW Sec. 22 Twp. 28S Rge. 20 ___ East X West

2180 Ft. North from Southeast Corner of Section

4620 Ft. West from Southeast Corner of Section
(NOTE: Locate well in section plat below.)

Lease Name ALDRICH Well # ONE

Field Name WILDCAT

Producing Formation MISSISSIPPIAN

Elevation: Ground 2298 KB 2311

Total Depth 5600 PBTD 5600

Operator: License # 4243

Name: CROSS BAR PETROLEUM, INC.

Address P.O. BOX 20080

City/State/Zip WICHITA, KANSAS 67208

Purchaser: TEXACO

Operator Contact Person: ALBERT BRENSING

Phone (316) 799-2933

Contractor: Name: EAGLE DRILLING, INC.

License: 5380

Wellsite Geologist: ALBERT BRENSING

RECEIVED
STATE CORPORATION COMMISSION
MAR 19 1991
CONSERVATION DIVISION
Wichita, Kansas

Designate Type of Completion
X New Well ___ Re-Entry ___ Workover

X Oil ___ SWD ___ Temp. Abd.
___ Gas ___ Inj ___ Delayed Comp.
___ Dry ___ Other (Core, Water Supply, etc.)

If OWWO: old well info as follows:
Operator:

Well Name:

Comp. Date ___ Old Total Depth ___

Drilling Method:
X Mud Rotary ___ Air Rotary ___ Cable

11-7-90 Spud Date
11-17-90 Date Reached TD
12-5-90 Completion Date

Amount of Surface Pipe Set and Cemented at 465 Feet

Multiple Stage Cementing Collar Used? ___ Yes X No

If yes, show depth set ___ Feet

If Alternate II completion, cement circulated from ___

feet depth to ___ W/ ___ sx cmt

**INSTRUCTIONS:** This form shall be completed in triplicate and filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date of any well. Rule 82-3-130, 82-3-107 and 82-3-106 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form. See rule 82-3-107 for confidentiality in excess of 12 months. One copy of all wireline logs and drillers time log shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells. Any recompletion, workover or conversion of a well requires filing of ACO-2 within 120 days from commencement date of such work.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature

Title PRESIDENT Date 3-1-91

Subscribed and sworn to before me this 2ND day of MARCH, 19 91.

Notary Public Treva Brensing

Date Commission Expires 11-21-93

TREVA BRENSING
Notary Public - State of Kansas
My Appt. Expires 11-21-93

K.C.C. OFFICE USE ONLY
F ___ Letter of Confidentiality Attached
C ✓ Wireline Log Received
C ✓ Drillers Timelog Received

Distribution
✓ KCC ___ SWD/Rep ___ NGPA
___ KGS ___ Plug ___ Other (Specify)

Form ACO-1 (7-89)

**SIDE TWO**

Operator Name CROSS BAR PETROLEUM, INC. Lease Name ALDRICH Well # ONE

Sec. 22 Twp. 28S Rge. 20 ☐ East ☒ West County KIOWA

**INSTRUCTIONS:** Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken (Attach Additional Sheets.) ☒ Yes ☐ No

Samples Sent to Geological Survey ☐ Yes ☒ No

Cores Taken ☐ Yes ☒ No

Electric Log Run (Submit Copy.) ☒ Yes ☐ No

**Formation Description**

☒ Log ☐ Sample

| Name | Top | Bottom |
|---|---|---|
| ANHYDRITE | +1071 | |
| HEEBNER | -1814 | |
| LANSING | -1983 | |
| MISSISSIPPI | -2594 | |
| ARBUCKLE | -3235 | |

**CASING RECORD** ☐ New ☒ Used

Report all strings set-conductor, surface, intermediate, production, etc.

| Purpose of String | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs./Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
|---|---|---|---|---|---|---|---|
| SURFACE | 12 1/4" | 8 5/8" | 28 LB | 465 | LIGHT | 150 | 3%CC |
| | | | | | STND, POZ | 100 | 3%CC, 2%GEL |
| PRODUCTION | 7 7/8" | 5 1/2" | 14--15.5 | 5565 | STND, LGT | 150 | 3%CC, 2%GEL |
| | | | | | POZ | 100 | 2% GEL |

**PERFORATION RECORD**

| Shots Per Foot | Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used) | Depth |
|---|---|---|---|
| 4SPF | 5314-18" | 500 GAL DSFE ACID | SAME |
| | | NON-COMMERCIAL SET WLINE PLG | 5280' |
| 4SPF | 4923-26" | 500 GAL DSFE ACID | SAME |
| | | 1500 GAL SWIC ACID | SAME |
| 4SPF | 4584-86 | 250 GAL DSFE ACID | SAME |
| | | NON-COM SQZ PERFS 50SX STND | 4584-86 |

**TUBING RECORD** Size 2 3/8" Set At 4966' Packer At Liner Run ☐ Yes ☒ No

| Date of First Production | Producing Method | | | | | |
|---|---|---|---|---|---|---|
| JAN 1991 | ☐ Flowing | ☒ Pumping | ☐ Gas Lift | ☐ Other (Explain) | | |
| **Estimated Production Per 24 Hours** | **Oil Bbls.** | **Gas Mcf** | **Water Bbls.** | **Gas-Oil Ratio** | **Gravity** | |
| | 25 | 10 | 60 | | 35 | |

Disposition of Gas: ☐ Vented ☐ Sold ☒ Used on Lease (If vented, submit ACO-18.)

**METHOD OF COMPLETION** ☐ Open Hole ☒ Perforation ☐ Dually Completed ☐ Commingled ☐ Other (Specify) _____

Production Interval 4923-26

CUSTOMER COPY

ORIGINAL

INVOICE

**HALLIBURTON SERVICES**

A Halliburton Company

REMIT TO:
P.O. BOX 951046
DALLAS, TX 75395-1046

| INVOICE NO. | DATE |
|---|---|
| 040914 | 11/07/1990 |

| WELL LEASE NO./PLANT NAME | WELL/PLANT LOCATION | STATE | WELL/PLANT OWNER |
|---|---|---|---|
| ALDRICH 1 | KIOWA | KS | SAME |

| SERVICE LOCATION | CONTRACTOR | JOB PURPOSE | TICKET DATE |
|---|---|---|---|
| PRATT | EAGLE DRLG | CEMENT SURFACE CASING | 11/07/1990 |

| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O. NUMBER | SHIPPED VIA | FILE NO. |
|---|---|---|---|---|---|
| 202259 | K O STEINERT | | | COMPANY TRUCK | 04949 |

CROSS BAR PETROLEUM INC
P O BOX 20080
WICHITA, KS 67208

RECEIVED
STATE CORPORATION COMMISSION
MAR 19 1991
CONSERVATION DIVISION
Wichita

DIRECT CORRESPONDENCE TO:
SUITE 1300
LIBERTY TOWER
100 BROADWAY AVENUE
OKLAHOMA CITY, OK 73102-0000

| PRICE REF. NO. | DESCRIPTION | QUANTITY | U/M | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|---|
| PRICING AREA - MID CONTINENT | | | | | | |
| 000-117 | MILEAGE | 38 | MI | 2.35 | 89.30 | |
| | | 1 | UNT | | | |
| 000-118 | MILEAGE SURCHARGE-CEMENT-LAND | 38 | MI | .40 | 15.20 | |
| | | 1 | UNT | | | |
| 001-016 | CEMENTING CASING | 465 | FT | 460.00 | 460.00 | |
| | | 1 | UNT | | | |
| 030-503 | CMTG PLUG LA-11,CP-1,CP-3,TOP | 8 5/8 | IN | 59.00 | 59.00 | |
| | | 1 | EA | | | |
| 597 | BAFFLE PLATE - 8 5/8" | 1 | EA | 39.00 | 39.00 | A |
| 825.1269 | | | | | | |
| 504-316 | HALLIBURTON LIGHT W/STANDARD | 150 | SK | 5.64 | 846.00 | A |
| 504-308 | STANDARD CEMENT | 60 | SK | 5.35 | 321.00 | A |
| 506-105 | POZMIX A | 40 | SK | 2.79 | 111.60 | A |
| 506-121 | HALLIBURTON-GEL 2% | 2 | SK | .00 | N/C | L |
| 509-406 | ANHYDROUS CALCIUM CHLORIDE | 6 | SK | 25.75 | 154.50 | A |
| 500-307 | MILEAGE SURCHARGE-CEMENT MAT. | 438.56 | TMI | .10 | 43.86 | |
| | | 1 | UNT | | | |
| 500-207 | BULK SERVICE CHARGE | 262 | CFT | 1.10 | 288.20 | A |
| 500-306 | MILEAGE CMTG MAT DEL OR RETURN | 438.56 | TMI | .75 | 328.92 | A |
| | INVOICE SUBTOTAL | | | | 2,776.58 | |
| | DISCOUNT-(BID) | | | | 641.58- | |
| | INVOICE BID AMOUNT | | | | 2,135.00 | |
| | A-KANSAS STATE SALES TAX | | | | 68.27 | |
| | A-PRATT COUNTY SALES TAX | | | | 16.08 | |
| | INVOICE TOTAL - PLEASE PAY THIS AMOUNT | | | | $2,219.35 | |

TERMS INVOICES PAYABLE NET BY THE 20TH OF THE FOLLOWING MONTH AFTER DATE OF INVOICE. UPON CUSTOMER'S DEFAULT IN PAYMENT OF CUSTOMER'S ACCOUNT BY THE LAST DAY OF THE MONTH FOLLOWING THE MONTH IN WHICH THE INVOICE IS DATED, CUSTOMER AGREES TO PAY INTEREST THEREON AFTER DEFAULT AT THE HIGHEST LAWFUL CONTRACT RATE APPLICABLE BUT NEVER TO EXCEED 18% PER ANNUM. IN THE EVENT IT BECOMES NECESSARY TO EMPLOY AN ATTORNEY TO ENFORCE COLLECTION OF SAID ACCOUNT, CUSTOMER AGREES TO PAY ALL COLLECTION COSTS AND ATTORNEY FEES IN THE AMOUNT OF 20% OF THE AMOUNT OF THE UNPAID ACCOUNT.

CUSTOMER COPY

INVOICE

HALLIBURTON SERVICES

A Halliburton Company

ORIGINAL

REMIT TO:
P.O. BOX 951046
DALLAS, TX 75395 1046

| INVOICE NO. | DATE |
|---|---|
| 040897 | 11/17/1990 |

| WELL LEASE NO./PLANT NAME | WELL/PLANT LOCATION | STATE | WELL/PLANT OWNER |
|---|---|---|---|
| ALDRICH 1 | KIOWA | KS | SAME |

| SERVICE LOCATION | CONTRACTOR | JOB PURPOSE | TICKET DATE |
|---|---|---|---|
| PRATT | EAGLE DRLG | CEMENT PRODUCTION CASING | 11/17/1990 |

| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O. NUMBER | SHIPPED VIA | FILE NO. |
|---|---|---|---|---|---|
| 202259 | ROBERT MOOREHEAD | | | COMPANY TRUCK | 05507 |

RECEIVED
STATE CORPORATION COMMISSION
MAR 10 1991
CONSERVATION DIVISION
Wichita, Kansas

CROSS BAR PETROLEUM INC
P O BOX 20080
WICHITA, KS 67208

DIRECT CORRESPONDENCE TO:
SUITE 1300
LIBERTY TOWER
100 BROADWAY AVENUE
OKLAHOMA CITY, OK 73102-0000

| PRICE REF. NO. | DESCRIPTION | QUANTITY | U/M | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|---|
| PRICING ARE | A - MID CONTINENT | | | | | |
| 000-117 | MILEAGE | 38 | MI | 2.35 | 89.30 | |
| | | 1 | UNT | | | |
| 000-118 | MILEAGE SURCHARGE-CEMENT-LAND | 38 | MI | .40 | 15.20 | |
| | | 1 | UNT | | | |
| 001-016 | CEMENTING CASING | 5565 | FT | 1,400.00 | 1,400.00 | |
| | | 1 | UNT | | | |
| 030-018 | CEMENTING PLUG 5W, PLASTIC TOP | 5.5 | IN | 53.00 | 53.00 | * |
| | | 1 | EA | | | |
| 12A | GUIDE SHOE - 5 1/2" 8RD THD. | 1 | EA | 104.00 | 104.00 | * |
| 825.205 | | | | | | |
| 24A | INSERT FLOAT VALVE - 5 1/2"8RD | 1 | EA | 83.00 | 83.00 | * |
| 815.19251 | | | | | | |
| 40 | CENTRALIZER 5-1/2" MODEL S-4 | 8 | EA | 44.00 | 352.00 | * |
| 807.93022 | | | | | | |
| 320 | CEMENT BASKET 5 1/2" | 2 | EA | 90.00 | 180.00 | * |
| 800.8683 | | | | | | |
| 27 | FILL-UP UNIT 5 1/2"-6 5/8" | 1 | EA | 30.00 | 30.00 | * |
| 815.19311 | | | | | | |
| 018-317 | SUPER FLUSH | 7 | SK | 74.00 | 518.00 | |
| 350 | HALLIBURTON WELD-A | 1 | LB | 11.00 | 11.00 | * |
| 890.10802 | | | | | | |
| 504-316 | HALLIBURTON LIGHT W/STANDARD | 50 | SK | 5.64 | 282.00 | * |
| 504-308 | STANDARD CEMENT | 100 | SK | 5.35 | 535.00 | * |
| 506-105 | POZMIX A | 100 | SK | 2.79 | 279.00 | * |
| 506-121 | HALLIBURTON-GEL 2% | 3 | SK | .00 | N/C | * |
| 509-968 | SALT | 1000 | LB | .10 | 100.00 | |
| 509-968 | SALT | 100 | LB | .10 | 10.00 | |
| 508-292 | GILSONITE, SACRED | 1000 | LB | .42 | 420.00 | |
| 507-153 | CFR-3 | 101 | LB | 3.90 | 393.90 | * |
| 500-307 | MILEAGE SURCHARGE-CEMENT MAT. | 454.99 | TMI | .10 | 45.50 | |
| 500-207 | BULK SERVICE CHARGE | 286 | CFT | 1.10 | 314.60 | * |
| 500-306 | MILEAGE CMTG MAT DEL OR RETURN | 454.99 | TMI | .75 | 341.24 | * |

***** CONTINUED ON NEXT PAGE *****

TERMS INVOICES PAYABLE NET BY THE 20TH OF THE FOLLOWING MONTH AFTER DATE OF INVOICE. UPON CUSTOMER'S DEFAULT IN PAYMENT OF CUSTOMER'S ACCOUNT BY THE LAST DAY OF THE MONTH FOLLOWING THE MONTH IN WHICH THE INVOICE IS DATED, CUSTOMER AGREES TO PAY INTEREST THEREON AFTER DEFAULT AT THE HIGHEST LAWFUL CONTRACT RATE APPLICABLE BUT NEVER TO EXCEED 18% PER ANNUM. IN THE EVENT IT BECOMES NECESSARY TO EMPLOY AN ATTORNEY TO ENFORCE COLLECTION OF SAID ACCOUNT, CUSTOMER AGREES TO PAY ALL COLLECTION COSTS AND ATTORNEY FEES IN THE AMOUNT OF 20% OF THE AMOUNT OF THE UNPAID ACCOUNT.

CUSTOMER COPY

ORIGINAL

REMIT TO:
P.O. BOX 951046
DALLAS, TX 75395-1046

# INVOICE

**HALLIBURTON SERVICES**

A Halliburton Company

| INVOICE NO. | DATE |
|---|---|
| 040897 | 11/17/1990 |

| WELL LEASE NO./PLANT NAME | WELL/PLANT LOCATION | STATE | WELL/PLANT OWNER |
|---|---|---|---|
| ALDRICH 1 | KIOWA | KS | SAME |

| SERVICE LOCATION | CONTRACTOR | JOB PURPOSE | TICKET DATE |
|---|---|---|---|
| PRATT | EAGLE DRLG | CEMENT PRODUCTION CASTNG | 11/17/1990 |

| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O. NUMBER | SHIPPED VIA | FILE NO. |
|---|---|---|---|---|---|
| 202259 | ROBERT MOOREHEAD | | | COMPANY TRUCK | 05507 |

CROSS BAR PETROLEUM INC
P O BOX 20080
WICHITA, KS 67208

DIRECT CORRESPONDENCE TO:
SUITE 1300
LIBERTY TOWER
100 BROADWAY AVENUE
OKLAHOMA CITY, OK 73102-0000

| PRICE REF. NO. | DESCRIPTION | QUANTITY | U/M | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|
| | INVOICE SUBTOTAL | | | | 5,556.74 |
| | DISCOUNT-(BID) | | | | 1,222.48- |
| | INVOICE BID AMOUNT | | | | 4,334.26 |
| | *-KANSAS STATE SALES TAX | | | | 98.09 |
| | *-PRATT COUNTY SALES TAX | | | | 23.07 |
| | INVOICE TOTAL - PLEASE PAY THIS AMOUNT ==========> | | | | $4,455.42 |

TERMS INVOICES PAYABLE NET BY THE 20TH OF THE FOLLOWING MONTH AFTER DATE OF INVOICE. UPON CUSTOMER'S DEFAULT IN PAYMENT OF CUSTOMER'S ACCOUNT BY THE LAST DAY OF THE MONTH FOLLOWING THE MONTH IN WHICH THE INVOICE IS DATED, CUSTOMER AGREES TO PAY INTEREST THEREON AFTER DEFAULT AT THE HIGHEST LAWFUL CONTRACT RATE APPLICABLE BUT NEVER TO EXCEED 18% PER ANNUM. IN THE EVENT IT BECOMES NECESSARY TO EMPLOY AN ATTORNEY TO ENFORCE COLLECTION OF SAID ACCOUNT, CUSTOMER AGREES TO PAY ALL COLLECTION COSTS AND ATTORNEY FEES IN THE AMOUNT OF 20% OF THE AMOUNT OF THE UNPAID ACCOUNT.

FORM 1900-R4

CUSTOMER COPY

ORIGINAL

REMIT TO:
P.O. BOX 951046
DALLAS, TX 75395-1046

INVOICE

**HALLIBURTON SERVICES**

A Halliburton Company

| INVOICE NO. | DATE |
|---|---|
| 041696 | 12/06/1990 |

| WELL LEASE NO./PLANT NAME | WELL/PLANT LOCATION | STATE | WELL/PLANT OWNER |
|---|---|---|---|
| ALDRICH 1 | KIOWA | KS | SAME |

| SERVICE LOCATION | CONTRACTOR | JOB PURPOSE | TICKET DATE |
|---|---|---|---|
| PRATT | PRATT WELL SERVICE | SQUEEZE PERFORATIONS | 12/06/1990 |

| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O. NUMBER | SHIPPED VIA | FILE NO. |
|---|---|---|---|---|---|
| 202259 | ROBERT MOOREHEAD | | | COMPANY TRUCK | 06602 |

CROSS BAR PETROLEUM INC
P O BOX 20060
WICHITA, KS 67208

DIRECT CORRESPONDENCE TO:
SUITE 1300
LIBERTY TOWER
100 BROADWAY AVENUE
OKLAHOMA CITY, OK 73102-0000

| PRICE REF. NO. | DESCRIPTION | QUANTITY | U/M | UNIT PRICE | AMOUNT | |
|---|---|---|---|---|---|---|
| PRICING AREA - MID CONTINENT | | | | | | |
| 000-117 | MILEAGE | 48 | MI | 2.35 | 112.80 | |
| | | 1 | UNT | | | |
| 000-118 | MILEAGE SURCHARGE-CEMENT-LAND | 48 | MI | .40 | 19.20 | |
| | | 1 | UNT | | | |
| 009-134 | CEMENT SQUEEZE | 4586 | FT | 1,260.00 | 1,260.00 | |
| 009-019 | | 1 | UNT | | | |
| 510-222 | SACKED SAND 20/40 & SMALLER | 2 | SK | 8.60 | 17.20 | |
| 504-308 | STANDARD CEMENT | 50 | SK | 5.35 | 267.50 | * |
| 507-665 | HALAD-9 | 14 | LB | 6.65 | 93.10 | * |
| 500-307 | MILEAGE SURCHARGE-CEMENT MAT. | 113.14 | TMI | .10 | 11.31 | |
| 500-207 | BULK SERVICE CHARGE | 50 | CFT | 1.10 | 55.00 | * |
| 500-306 | MILEAGE CMTG MAT DEL OR RETURN | 113.14 | TNI | .75 | 84.86 | * |
| | INVOICE SUBTOTAL | | | | 1,920.97 | |
| | DISCOUNT-(BID) | | | | 326.53- | |
| | INVOICE BID AMOUNT | | | | 1,594.44 | |
| | *-KANSAS STATE SALES TAX | | | | 17.65 | |
| | *-PRATT COUNTY SALES TAX | | | | 4.15 | |
| | INVOICE TOTAL - PLEASE PAY THIS AMOUNT ==========> | | | | $1,616.24 | |

TERMS INVOICES PAYABLE NET BY THE 20TH OF THE FOLLOWING MONTH AFTER DATE OF INVOICE. UPON CUSTOMER'S DEFAULT IN PAYMENT OF CUSTOMER'S ACCOUNT BY THE LAST DAY OF THE MONTH FOLLOWING THE MONTH IN WHICH THE INVOICE IS DATED, CUSTOMER AGREES TO PAY INTEREST THEREON AFTER DEFAULT AT THE HIGHEST LAWFUL CONTRACT RATE APPLICABLE BUT NEVER TO EXCEED 18% PER ANNUM. IN THE EVENT IT BECOMES NECESSARY TO EMPLOY AN ATTORNEY TO ENFORCE COLLECTION OF SAID ACCOUNT, CUSTOMER AGREES TO PAY ALL COLLECTION COSTS AND ATTORNEY FEES IN THE AMOUNT OF 20% OF THE AMOUNT OF THE UNPAID ACCOUNT.

FORM 1900-R4

ORIGINAL

CROSSBAR PETROLEUM, INC.

LEASE : ALDRICH

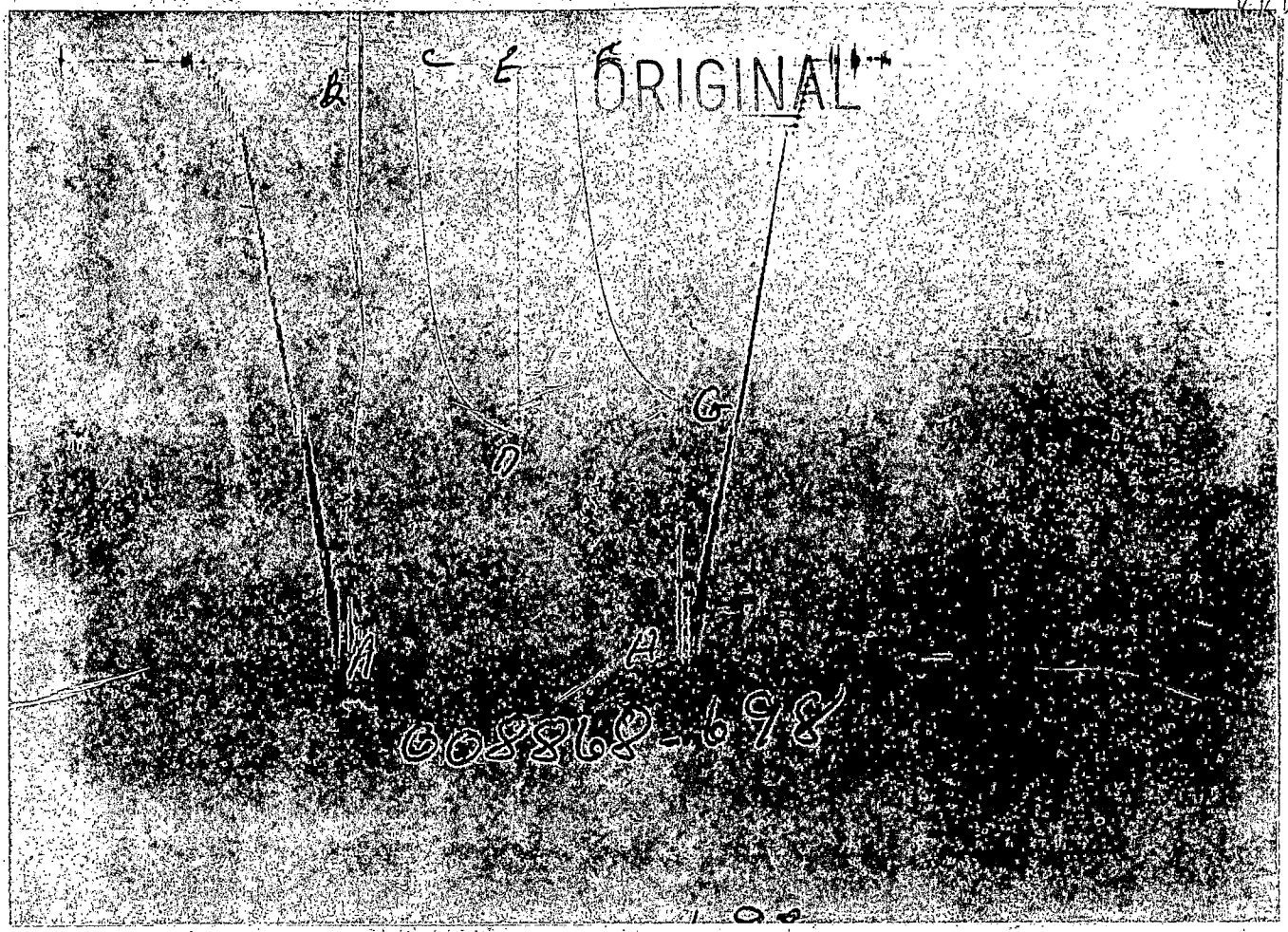
WELL NO. : 1

TEST NO. : 1

TICKET NO. 00886800
19-NOV-90
PRATT.

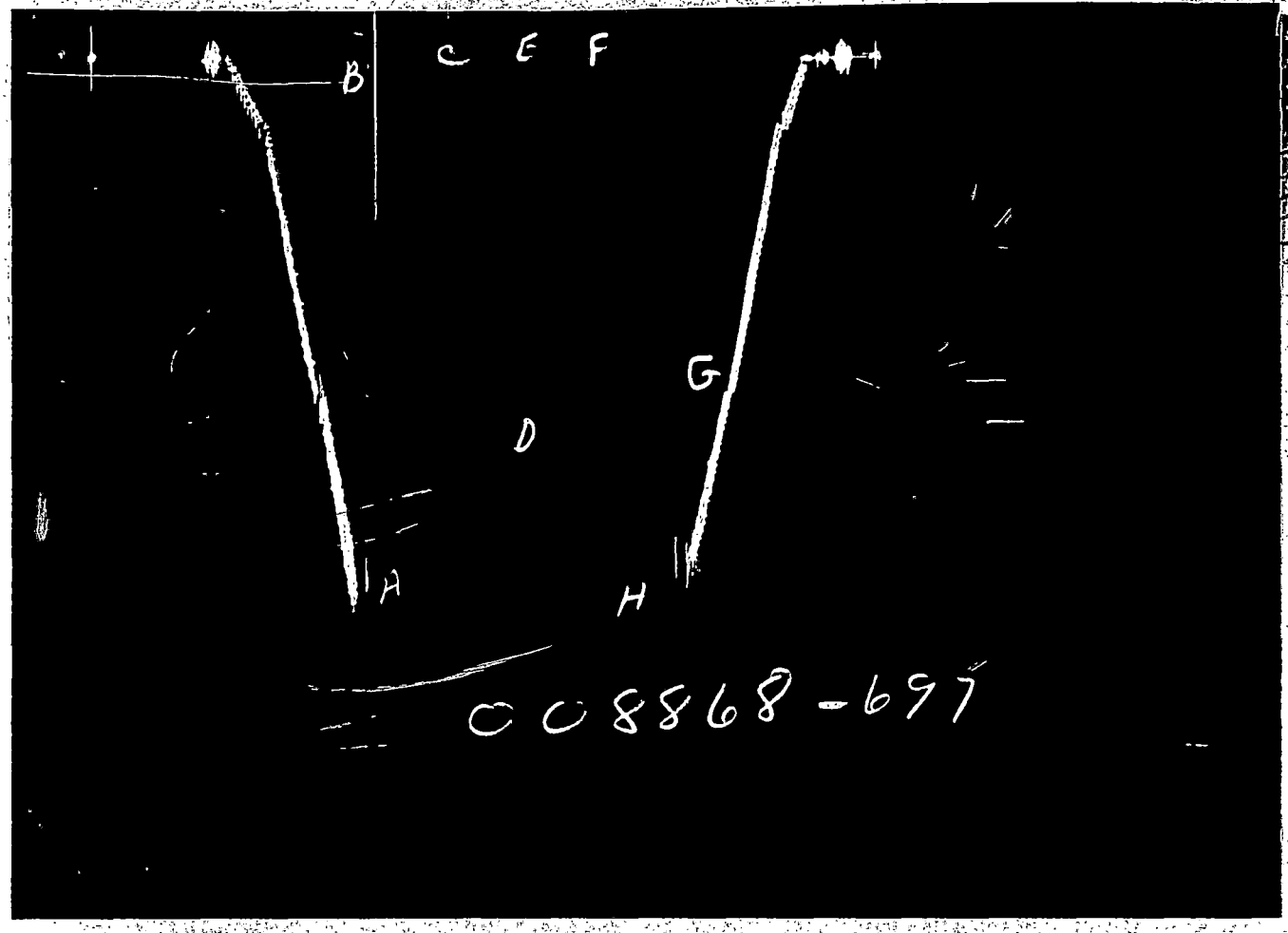
DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY

| | | | | | |
|---|---|---|---|---|---|
| LEASE NAME: ALDRICH | WELL NO.: 1 | TEST NO.: 1 | TESTED INTERVAL: 4326.0 - 4338.0 | LEASE OWNER/COMPANY NAME: CROSSBAR PETROLEUM, INC. | |
| LEGAL LOCATION SEC. - TWP. - RNG.: 22-28S-30W | FIELD AREA | COUNTY: KIOWA | STATE: KANSAS | DR | |




GAUGE NO: 698 DEPTH: 4305.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | | 2067.5 | | | |
| B | INITIAL FIRST FLOW | | 34.5 | 30.0 | 30.3 | F |
| C | FINAL FIRST FLOW | | 30.0 | | | |
| C | INITIAL FIRST CLOSED-IN | | 30.0 | 60.0 | 59.7 | C |
| D | FINAL FIRST CLOSED-IN | | 1375.4 | | | |
| E | INITIAL SECOND FLOW | | 32.5 | 30.0 | 30.7 | F |
| F | FINAL SECOND FLOW | | 25.0 | | | |
| F | INITIAL SECOND CLOSED-IN | | 25.0 | 60.0 | 59.4 | C |
| G | FINAL SECOND CLOSED-IN | | 1253.3 | | | |
| H | FINAL HYDROSTATIC | | 2060.0 | | | |




ORIGINAL

GAUGE NO: 697 DEPTH: 4335.0 BLANKED OFF: YES HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2065 | 2076.6 | | | |
| B | INITIAL FIRST FLOW | 20 | 31.6 | 30.0 | 30.3 | F |
| C | FINAL FIRST FLOW | 30 | 34.1 | | | |
| C | INITIAL FIRST CLOSED-IN | 30 | 34.1 | 60.0 | 59.7 | C |
| D | FINAL FIRST CLOSED-IN | 1369 | 1380.5 | | | |
| E | INITIAL SECOND FLOW | 20 | 33.1 | 30.0 | 30.7 | F |
| F | FINAL SECOND FLOW | 30 | 29.7 | | | |
| F | INITIAL SECOND CLOSED-IN | 30 | 29.7 | 60.0 | 59.4 | C |
| G | FINAL SECOND CLOSED-IN | 1248 | 1255.3 | | | |
| H | FINAL HYDROSTATIC | 2065 | 2068.4 | | | |

# ORIGINAL

## EQUIPMENT & HOLE DATA

FORMATION TESTED: KANSAS CITY "B"
NET PAY (ft): 10.0
GROSS TESTED FOOTAGE: 12.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 2311.0
TOTAL DEPTH (ft): 4338.0
PACKER DEPTH(S) (ft): 4320, 4326
FINAL SURFACE CHOKE (in): 0.12500
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30
MUD VISCOSITY (sec): 43
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 104 @ 4333.0 ft

TICKET NUMBER: 00886800
DATE: 11-12-90 TEST NO: 1
TYPE DST: OPEN HOLE
FIELD CAMP: PRATT.
TESTER: L.R. PARKER
WITNESS: A. BRENSING
DRILLING CONTRACTOR: EAGLE DRILLING COMPANY

## FLUID PROPERTIES FOR RECOVERED MUD & WATER

| SOURCE | RESISTIVITY | CHLORIDES |
|---|---|---|
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |

## SAMPLER DATA

Psig AT SURFACE:
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD:
TOTAL LIQUID cc:

## HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

## CUSHION DATA

| TYPE | AMOUNT | WEIGHT |
|---|---|---|
| | | |
| | | |

## RECOVERED:

15' OF SLIGHT OIL AND GAS CUT MUD

MEASURED FROM TESTER VALVE

## REMARKS:

----------TIGHT HOLE INFORMATION----------

ORIGINAL

| TYPE & SIZE MEASURING DEVICE: MERLA WELL TESTER 1/2-1/8 | | | | | TICKET NO: 00886800 |
|---|---|---|---|---|---|
| TIME | CHOKE SIZE | SURFACE PRESSURE PSI | GAS RATE MCF | LIQUID RATE BPD | REMARKS |
| 11-12-90 | | | | | |
| 0950 | | | | | CALLED OUT |
| 1200 | | | | | ON LOCATION |
| 1320 | | | | | PICKED UP TOOL |
| 1350 | | | | | TOOL IN TABLE |
| 1400 | | | | | TOOL THRU TABLE |
| 1526 | | | | | ON BOTTOM |
| 1530 | BH | | | | OPENED TOOL WITH A STRONG BLOW |
| 1535 | 1.5 | | | | OPENED 2" LINE (1.5" CHOKE) |
| 1538 | | | | | BLOW DEAD IN 3 MINUTES |
| 1538 | BH | | | | CLOSED 2" LINE, HAD WEAK BLOW |
| 1539 | | | | | BUILD TO A STRONG BLOW IN 1 |
| | | | | | MINUTE, STAYED STEADY THRU |
| | | | | | OUT 1ST PERIOD |
| 1600 | BH | | | | CLOSED TOOL |
| 1700 | BH | | | | REOPENED TOOL WITH A STRONG |
| | | | | | BLOW |
| 1703 | 1.5 | | | | OPENED 2" LINE (1.5" CHOKE) |
| | | | | | GAS TO THE SURFACE IN 3 MIN. |
| 1705 | | | | | CHANGED TO 1/8" CHOKE |
| 1710 | 1/8 | 2 | 3.92 | | |
| 1720 | | 4 | 5.64 | | |
| 1730 | | 45 | 6.01 | | CLOSED TOOL |
| 1830 | | | | | OFF BOTTOM |
| 2000 | | | | | TOOL IN TABLE |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |

# ORIGINAL

TICKET NO: 00886800

CLOCK NO: 26740 HOUR: 12

GAUGE NO: 698

DEPTH: 4305.0

## FIRST FLOW

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| B | 1 | 0.0 | 34.5 | | | |
| | 2 | 5.0 | 20.7 | -13.8 | | |
| | 3 | 10.0 | 19.2 | -1.4 | | |
| | 4 | 15.0 | 22.0 | 2.8 | | |
| | 5 | 20.0 | 24.5 | 2.5 | | |
| | 6 | 25.0 | 27.4 | 2.9 | | |
| C | 7 | 30.3 | 30.0 | 2.6 | | |

## FIRST CLOSED-IN

| | | | | | | |
|---|---|---|---|---|---|---|
| C | 1 | 0.0 | 30.0 | | | |
| | 2 | 1.0 | 124.6 | 94.6 | 1.0 | 1.485 |
| | 3 | 2.0 | 236.7 | 206.7 | 1.9 | 1.212 |
| | 4 | 3.0 | 353.1 | 323.1 | 2.7 | 1.042 |
| | 5 | 4.0 | 440.2 | 410.3 | 3.5 | 0.937 |
| | 6 | 5.0 | 524.8 | 494.9 | 4.3 | 0.850 |
| | 7 | 6.0 | 600.3 | 570.3 | 5.0 | 0.779 |
| | 8 | 7.0 | 680.8 | 650.8 | 5.7 | 0.727 |
| | 9 | 8.0 | 735.0 | 705.0 | 6.3 | 0.679 |
| | 10 | 9.0 | 790.9 | 761.0 | 6.9 | 0.640 |
| | 11 | 10.0 | 840.4 | 810.4 | 7.5 | 0.606 |
| | 12 | 12.0 | 928.9 | 898.9 | 8.6 | 0.548 |
| | 13 | 14.0 | 996.0 | 966.0 | 9.6 | 0.500 |
| | 14 | 16.0 | 1054.3 | 1024.3 | 10.5 | 0.461 |
| | 15 | 18.0 | 1099.3 | 1069.3 | 11.3 | 0.429 |
| | 16 | 20.0 | 1138.9 | 1109.0 | 12.0 | 0.401 |
| | 17 | 22.0 | 1171.2 | 1141.2 | 12.7 | 0.377 |
| | 18 | 24.0 | 1197.1 | 1167.1 | 13.4 | 0.354 |
| | 19 | 26.0 | 1220.5 | 1190.5 | 14.0 | 0.335 |
| | 20 | 28.0 | 1240.1 | 1210.1 | 14.6 | 0.318 |
| | 21 | 30.0 | 1257.5 | 1227.6 | 15.1 | 0.303 |
| | 22 | 35.0 | 1293.2 | 1263.2 | 16.2 | 0.271 |
| | 23 | 40.0 | 1320.4 | 1290.4 | 17.2 | 0.245 |
| | 24 | 45.0 | 1340.3 | 1310.3 | 18.1 | 0.224 |
| | 25 | 50.0 | 1355.4 | 1325.5 | 18.9 | 0.205 |
| | 26 | 55.0 | 1367.4 | 1337.4 | 19.5 | 0.191 |
| D | 27 | 59.7 | 1375.4 | 1345.5 | 20.1 | 0.178 |

## SECOND FLOW

| | | | | | | |
|---|---|---|---|---|---|---|
| E | 1 | 0.0 | 32.5 | | | |
| | 2 | 5.0 | 18.0 | -14.6 | | |
| | 3 | 10.0 | 18.0 | 0.0 | | |
| | 4 | 15.0 | 19.4 | 1.5 | | |
| | 5 | 20.0 | 22.1 | 2.6 | | |
| | 6 | 25.0 | 24.2 | 2.1 | | |
| F | 7 | 30.7 | 25.0 | 0.8 | | |

## SECOND CLOSED-IN

| | | | | | | |
|---|---|---|---|---|---|---|
| F | 1 | 0.0 | 25.0 | | | |
| | 2 | 1.0 | 101.9 | 76.9 | 1.0 | 1.775 |
| | 3 | 2.0 | 167.2 | 142.3 | 1.9 | 1.498 |
| | 4 | 3.0 | 245.6 | 220.6 | 2.8 | 1.333 |
| | 5 | 4.0 | 318.9 | 293.9 | 3.7 | 1.212 |
| | 6 | 5.0 | 368.1 | 343.1 | 4.6 | 1.123 |
| | 7 | 6.0 | 421.8 | 396.8 | 5.5 | 1.048 |
| | 8 | 7.0 | 471.2 | 446.2 | 6.3 | 0.988 |
| | 9 | 8.0 | 517.8 | 492.8 | 7.1 | 0.934 |
| | 10 | 9.0 | 568.5 | 543.5 | 7.8 | 0.891 |
| | 11 | 10.0 | 614.1 | 589.1 | 8.6 | 0.853 |
| | 12 | 12.0 | 693.1 | 668.1 | 10.0 | 0.785 |
| | 13 | 14.0 | 760.1 | 735.2 | 11.4 | 0.730 |
| | 14 | 16.0 | 819.2 | 794.2 | 12.6 | 0.683 |
| | 15 | 18.0 | 876.9 | 851.9 | 13.9 | 0.642 |
| | 16 | 20.0 | 920.3 | 895.3 | 15.0 | 0.608 |
| | 17 | 22.0 | 964.3 | 939.3 | 16.2 | 0.576 |
| | 18 | 24.0 | 998.7 | 973.7 | 17.2 | 0.549 |
| | 19 | 26.0 | 1029.0 | 1004.0 | 18.2 | 0.524 |
| | 20 | 28.0 | 1055.6 | 1030.6 | 19.2 | 0.502 |
| | 21 | 30.0 | 1078.0 | 1053.1 | 20.1 | 0.482 |
| | 22 | 35.0 | 1129.0 | 1104.0 | 22.2 | 0.438 |
| | 23 | 40.0 | 1166.5 | 1141.5 | 24.2 | 0.402 |
| | 24 | 45.0 | 1197.3 | 1172.3 | 25.9 | 0.372 |
| | 25 | 50.0 | 1221.9 | 1196.9 | 27.5 | 0.346 |
| | 26 | 55.0 | 1240.0 | 1215.1 | 28.9 | 0.324 |
| G | 27 | 59.4 | 1253.3 | 1228.3 | 30.1 | 0.307 |

REMARKS:

TICKET NO: 00886800

CLOCK NO: 14285 HOUR: 12

# ORIGINAL

GAUGE NO: 697

DEPTH: 4335.0

## FIRST FLOW

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| B | 1 | 0.0 | 31.6 | | | |
| | 2 | 5.0 | 27.4 | -4.2 | | |
| | 3 | 10.0 | 26.1 | -1.3 | | |
| | 4 | 15.0 | 28.0 | 1.9 | | |
| | 5 | 20.0 | 30.6 | 2.6 | | |
| | 6 | 25.0 | 32.8 | 2.2 | | |
| C | 7 | 30.3 | 34.1 | 1.3 | | |

## FIRST CLOSED-IN

| | | | | | | |
|---|---|---|---|---|---|---|
| C | 1 | 0.0 | 34.1 | | | |
| | 2 | 1.0 | 154.6 | 120.5 | 1.0 | 1.478 |
| | 3 | 2.0 | 262.5 | 228.4 | 1.9 | 1.212 |
| | 4 | 3.0 | 368.6 | 334.5 | 2.7 | 1.048 |
| | 5 | 4.0 | 456.3 | 422.1 | 3.5 | 0.938 |
| | 6 | 5.0 | 547.5 | 513.4 | 4.3 | 0.849 |
| | 7 | 6.0 | 629.3 | 595.2 | 5.0 | 0.784 |
| | 8 | 7.0 | 699.8 | 665.7 | 5.7 | 0.727 |
| | 9 | 8.0 | 755.7 | 721.6 | 6.3 | 0.679 |
| | 10 | 9.0 | 814.6 | 780.5 | 6.9 | 0.641 |
| | 11 | 10.0 | 853.7 | 819.6 | 7.5 | 0.606 |
| | 12 | 12.0 | 943.7 | 909.6 | 8.6 | 0.548 |
| | 13 | 14.0 | 1017.3 | 983.2 | 9.6 | 0.500 |
| | 14 | 16.0 | 1068.5 | 1034.4 | 10.5 | 0.462 |
| | 15 | 18.0 | 1115.0 | 1080.9 | 11.3 | 0.428 |
| | 16 | 20.0 | 1148.0 | 1113.9 | 12.0 | 0.401 |
| | 17 | 22.0 | 1182.7 | 1148.6 | 12.8 | 0.376 |
| | 18 | 24.0 | 1208.4 | 1174.3 | 13.4 | 0.355 |
| | 19 | 26.0 | 1229.8 | 1195.7 | 14.0 | 0.336 |
| | 20 | 28.0 | 1249.4 | 1215.3 | 14.5 | 0.319 |
| | 21 | 30.0 | 1267.4 | 1233.3 | 15.1 | 0.303 |
| | 22 | 35.0 | 1303.5 | 1269.3 | 16.2 | 0.271 |
| | 23 | 40.0 | 1328.2 | 1294.1 | 17.2 | 0.245 |
| | 24 | 45.0 | 1345.8 | 1311.7 | 18.1 | 0.224 |
| | 25 | 50.0 | 1361.0 | 1326.9 | 18.9 | 0.206 |
| | 26 | 55.0 | 1373.1 | 1339.0 | 19.5 | 0.190 |
| D | 27 | 59.7 | 1380.5 | 1346.4 | 20.1 | 0.178 |

## SECOND FLOW

| | | | | | | |
|---|---|---|---|---|---|---|
| E | 1 | 0.0 | 33.1 | | | |
| | 2 | 5.0 | 20.5 | -12.6 | | |
| | 3 | 10.0 | 22.2 | 1.7 | | |
| | 4 | 15.0 | 24.6 | 2.4 | | |
| | 5 | 20.0 | 26.3 | 1.7 | | |
| | 6 | 25.0 | 28.2 | 1.9 | | |
| F | 7 | 30.7 | 29.7 | 1.6 | | |

## SECOND CLOSED-IN

| | | | | | | |
|---|---|---|---|---|---|---|
| F | 1 | 0.0 | 29.7 | | | |
| | 2 | 1.0 | 106.3 | 76.5 | 1.0 | 1.786 |
| | 3 | 2.0 | 164.5 | 134.7 | 1.9 | 1.505 |
| | 4 | 3.0 | 231.6 | 201.8 | 2.8 | 1.331 |
| | 5 | 4.0 | 302.3 | 272.6 | 3.8 | 1.211 |
| | 6 | 5.0 | 359.6 | 329.8 | 4.6 | 1.119 |
| | 7 | 6.0 | 422.6 | 392.8 | 5.5 | 1.046 |
| | 8 | 7.0 | 470.0 | 440.3 | 6.3 | 0.987 |
| | 9 | 8.0 | 526.8 | 497.0 | 7.1 | 0.937 |
| | 10 | 9.0 | 570.3 | 540.5 | 7.8 | 0.892 |
| | 11 | 10.0 | 621.6 | 591.8 | 8.6 | 0.851 |
| | 12 | 12.0 | 706.2 | 676.5 | 10.0 | 0.785 |
| | 13 | 14.0 | 774.8 | 745.0 | 11.4 | 0.728 |
| | 14 | 16.0 | 830.6 | 800.9 | 12.7 | 0.681 |
| | 15 | 18.0 | 881.9 | 852.2 | 13.9 | 0.642 |
| | 16 | 20.0 | 926.9 | 897.1 | 15.1 | 0.607 |
| | 17 | 22.0 | 965.8 | 936.0 | 16.2 | 0.577 |
| | 18 | 24.0 | 1004.9 | 975.2 | 17.2 | 0.549 |
| | 19 | 26.0 | 1035.4 | 1005.6 | 18.2 | 0.524 |
| | 20 | 28.0 | 1063.0 | 1033.3 | 19.2 | 0.502 |
| | 21 | 30.0 | 1083.9 | 1054.1 | 20.1 | 0.482 |
| | 22 | 35.0 | 1132.9 | 1103.1 | 22.2 | 0.438 |
| | 23 | 40.0 | 1170.9 | 1141.1 | 24.1 | 0.402 |
| | 24 | 45.0 | 1201.3 | 1171.5 | 25.8 | 0.372 |
| | 25 | 50.0 | 1225.3 | 1195.5 | 27.5 | 0.346 |
| | 26 | 55.0 | 1242.9 | 1213.2 | 28.9 | 0.324 |
| G | 27 | 59.4 | 1255.3 | 1225.5 | 30.1 | 0.307 |

REMARKS:

# ORIGINAL

TICKET NO. 00886800

| | | O.D. | I.D. | LENGTH | DEPTH |
|---|---|---|---|---|---|
| 1 | DRILL PIPE | 4.500 | 3.826 | 3742.0 | |
| 3 | DRILL COLLARS | 6.000 | 2.250 | 423.0 | |
| 50 | IMPACT REVERSING SUB | 6.000 | 2.750 | 1.0 | 4165.5 |
| 3 | DRILL COLLARS | 6.000 | 2.250 | 121.0 | |
| 5 | CROSSOVER | 6.000 | 2.250 | 1.0 | |
| 11 | HANDLING SUB & CHOKE ASSEMBLY | 5.000 | 3.650 | 5.0 | |
| 12 | DUAL CIP VALVE | 5.000 | 0.870 | 6.0 | |
| 60 | HYDROSPRING TESTER | 5.000 | 0.750 | 5.0 | 4303.0 |
| 80 | AP RUNNING CASE | 5.000 | 2.250 | 4.0 | 4305.0 |
| 15 | JAR | 5.000 | 1.750 | 5.0 | |
| 16 | VR SAFETY JOINT | 5.000 | 1.000 | 3.0 | |
| 70 | OPEN HOLE PACKER | 6.750 | 1.530 | 6.0 | 4320.0 |
| 70 | OPEN HOLE PACKER | 6.750 | 1.530 | 6.0 | 4326.0 |
| 20 | FLUSH JOINT ANCHOR | 5.000 | 2.370 | 4.0 | |
| 83 | HT-500 TEMPERATURE CASE | 5.000 | 2.650 | 2.0 | 4333.0 |
| 81 | BLANKED-OFF RUNNING CASE | 5.000 | | 4.0 | 4335.0 |

TOTAL DEPTH 4338.0

## EQUIPMENT DATA

ORIGINAL

| ALDRICH | 1 | 2 | 4589.0 - 4601.0 | CROSSBAR PETROLEUM, INC. |
|---|---|---|---|---|
| LEASE NAME | WELL NO. | TEST NO. | TESTED INTERVAL | LEASE OWNER/COMPANY NAME |

| LEGAL LOCATION SEC - TWP - RNG | FIELD AREA | COUNTY | STATE |
|---|---|---|---|
| 22-28S-20W | | KIOWA | KANSAS SM |

CROSSBAR PETROLEUM, INC.

LEASE : ALDRICH

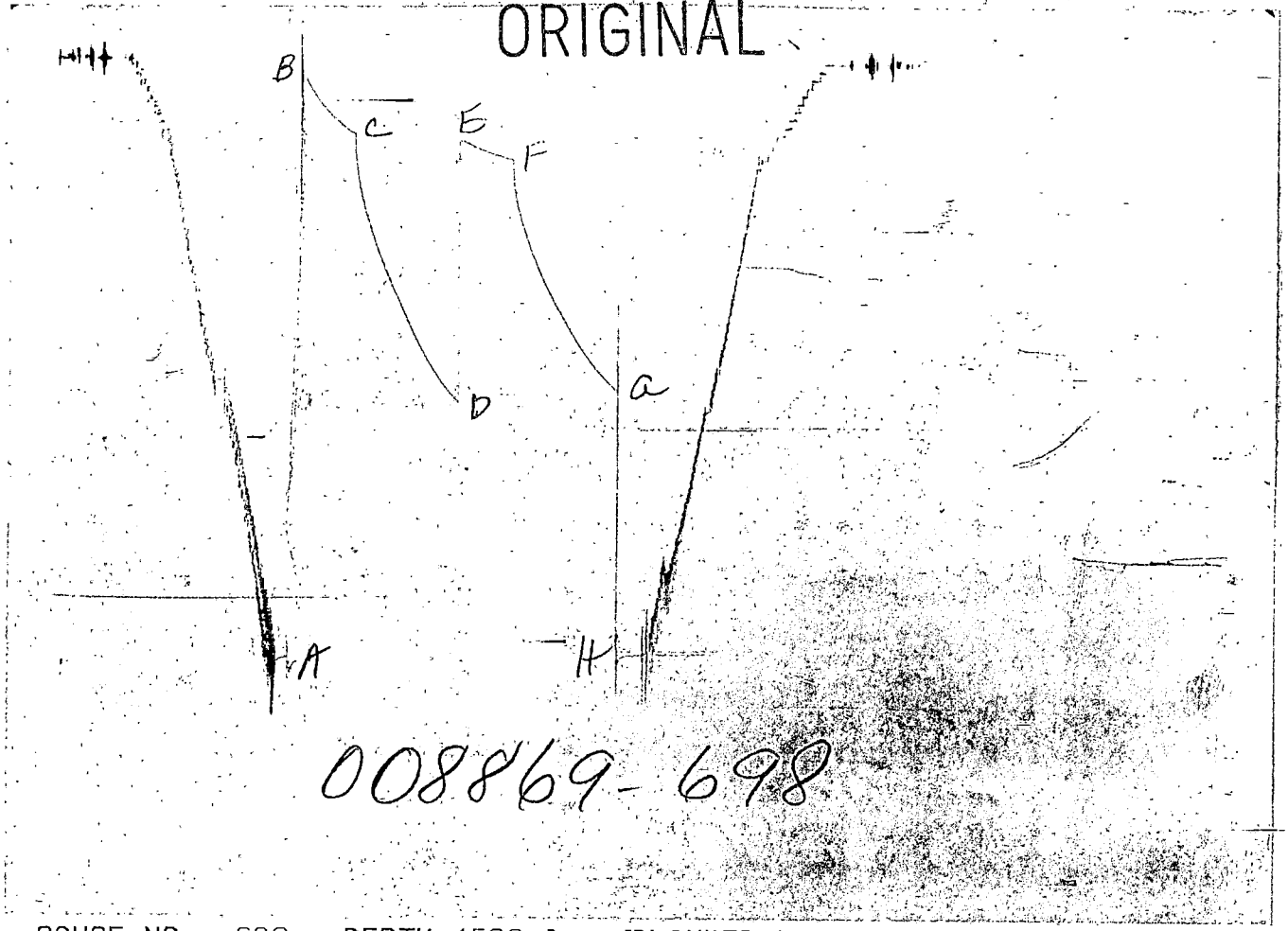
WELL NO.: 1

TEST NO.: 2

TICKET NO. 00886900
19-NOV-90
PRATT.

DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY

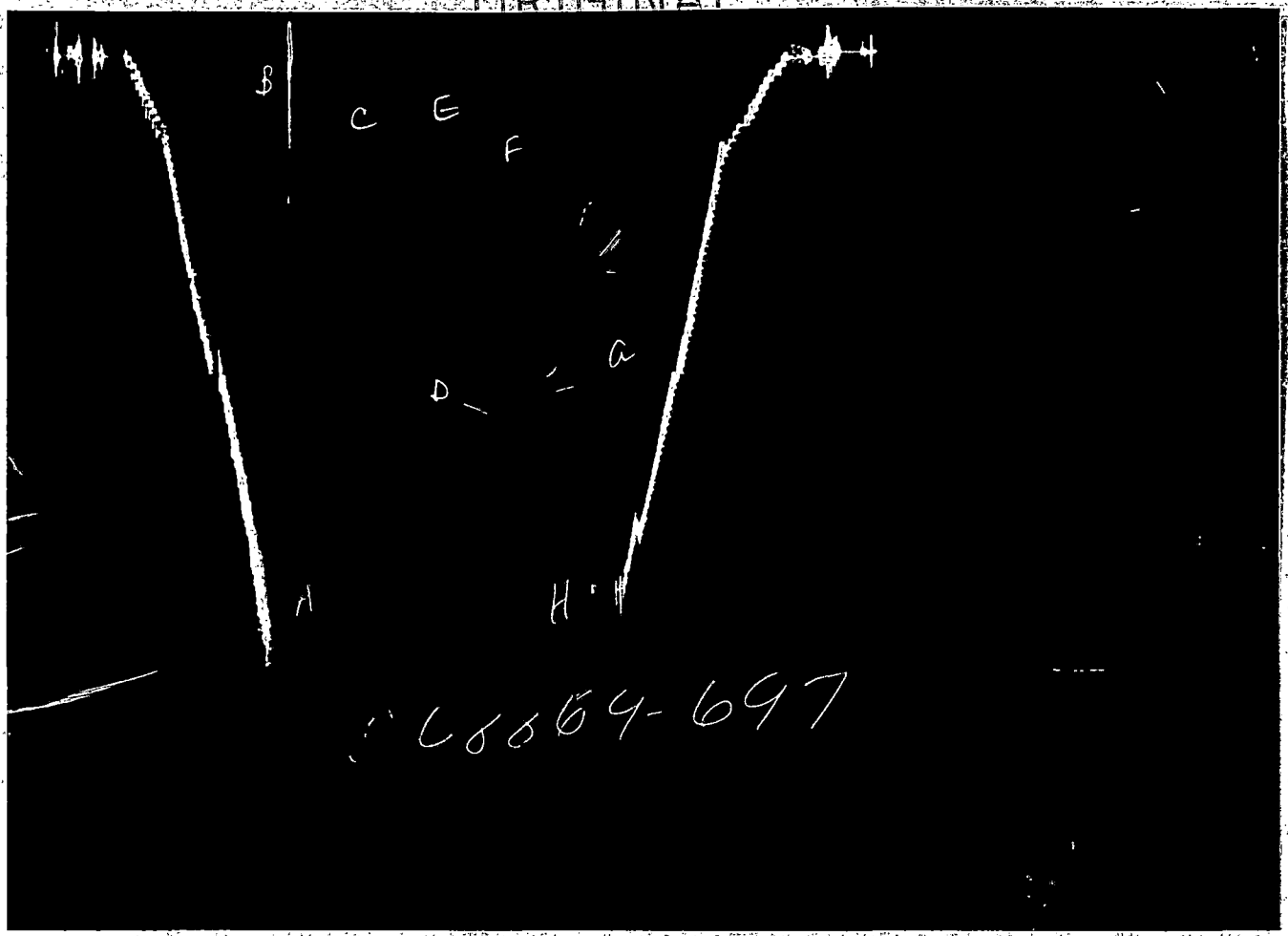
ORIGINAL




008869-698

GAUGE NO: 698 DEPTH: 4568.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | | 2205.4 | | | |
| B | INITIAL FIRST FLOW | | 37.4 | 30.0 | 30.3 | F |
| C | FINAL FIRST FLOW | | 268.9 | | | |
| C | INITIAL FIRST CLOSED-IN | | 268.9 | 60.0 | 59.4 | C |
| D | FINAL FIRST CLOSED-IN | | 1261.4 | | | |
| E | INITIAL SECOND FLOW | | 297.5 | 30.0 | 30.1 | F |
| F | FINAL SECOND FLOW | | 363.3 | | | |
| F | INITIAL SECOND CLOSED-IN | | 363.3 | 60.0 | 60.2 | C |
| G | FINAL SECOND CLOSED-IN | | 1216.0 | | | |
| H | FINAL HYDROSTATIC | | 2183.5 | | | |




GAUGE NO: 697 DEPTH: 4598.0 BLANKED OFF: YES HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2208 | 2210.8 | | | |
| B | INITIAL FIRST FLOW | 40 | 47.1 | 30.0 | 30.3 | F |
| C | FINAL FIRST FLOW | 279 | 286.9 | | | |
| C | INITIAL FIRST CLOSED-IN | 279 | 286.9 | 60.0 | 59.4 | C |
| D | FINAL FIRST CLOSED-IN | 1259 | 1276.1 | | | |
| E | INITIAL SECOND FLOW | 289 | 310.2 | 30.0 | 30.1 | F |
| F | FINAL SECOND FLOW | 379 | 381.2 | | | |
| F | INITIAL SECOND CLOSED-IN | 379 | 381.2 | 60.0 | 60.2 | C |
| G | FINAL SECOND CLOSED-IN | 1228 | 1230.0 | | | |
| H | FINAL HYDROSTATIC | 2197 | 2194.0 | | | |

# ORIGINAL

## EQUIPMENT & HOLE DATA

FORMATION TESTED: SWOPE
NET PAY (ft): 7.0
GROSS TESTED FOOTAGE: 12.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 2311.0
TOTAL DEPTH (ft): 4601.0
PACKER DEPTH(S) (ft): 4583, 4589
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30
MUD VISCOSITY (sec): 45
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 113 @ 4596.0 ft

TICKET NUMBER: 00886900
DATE: 11-13-90 TEST NO: 2
TYPE DST: OPEN HOLE
FIELD CAMP: PRATT.
TESTER: L.R. PARKER
WITNESS: A. BRENSING
DRILLING CONTRACTOR: EAGLE DRILLING COMPANY

## FLUID PROPERTIES FOR RECOVERED MUD & WATER

| SOURCE | RESISTIVITY | CHLORIDES |
|---|---|---|
| PIT | @ °F | 7500 ppm |
| RECOVERY | @ °F | 118000 ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |

## SAMPLER DATA

Psig AT SURFACE:
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD:
TOTAL LIQUID cc:

## HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 35.0 @ 60 °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

## CUSHION DATA

| TYPE | AMOUNT | WEIGHT |
|---|---|---|
| | | |
| | | |

## RECOVERED:

10 FEET OF FREE OIL
60 FEET OF OIL CUT WATER
665 FEET OF WATER

MEASURED FROM TESTER VALVE

## REMARKS:

----------TIGHT HOLE INFORMATION----------

# ORIGINAL

| TYPE & SIZE MEASURING DEVICE: | | | | | TICKET NO: 00886900 |
|---|---|---|---|---|---|
| TIME | CHOKE SIZE | SURFACE PRESSURE PSI | GAS RATE MCF | LIQUID RATE BPD | REMARKS |
| 11-13-90 | | | | | |
| 1140 | | | | | CALLED OUT |
| 1310 | | | | | ON LOCATION |
| 1340 | | | | | PICKED UP TOOL |
| 1350 | | | | | TOOL IN TABLE |
| 1400 | | | | | TOOL THROUGH TABLE |
| 1531 | | | | | ON BOTTOM |
| 1535 | BH | | | | OPENED TOOL WITH A WEAK BLOW, |
| | | | | | INCREASED TO STRONG BLOW IN |
| | | | | | 5 MINUTES AND REMAINED STEADY |
| | | | | | THROUGHOUT FIRST PERIOD |
| 1605 | BH | | | | CLOSED TOOL |
| 1705 | BH | | | | REOPENED TOOL, WEAK BLOW, |
| | | | | | INCREASED TO STRONG BLOW OFF |
| | | | | | BOTTOM OF BUCKET IN 8 MINUTES, |
| | | | | | REMAINED STRONG THROUGHOUT 2ND |
| | | | | | FLOW PERIOD |
| 1735 | BH | | | | CLOSED TOOL |
| 1835 | | | | | OFF BOTTOM |
| 2030 | | | | | TOOL IN TABLE |

# ORIGINAL

TICKET NO: 00886900

CLOCK NO: 2674 HOUR: 12

GAUGE NO: 698

DEPTH: 4568.0

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| | | | FIRST FLOW | | | |
| B | 1 | 0.0 | 37.4 | | | |
| | 2 | 5.0 | 96.3 | 58.9 | | |
| | 3 | 10.0 | 146.6 | 50.3 | | |
| | 4 | 15.0 | 186.5 | 39.9 | | |
| | 5 | 20.0 | 219.8 | 33.4 | | |
| | 6 | 25.0 | 247.8 | 28.0 | | |
| C | 7 | 30.3 | 268.9 | 21.1 | | |
| | | | FIRST CLOSED-IN | | | |
| C | 1 | 0.0 | 268.9 | | | |
| | 2 | 1.0 | 381.3 | 112.4 | 0.9 | 1.505 |
| | 3 | 2.0 | 431.6 | 162.7 | 1.9 | 1.206 |
| | 4 | 3.0 | 467.4 | 198.5 | 2.7 | 1.049 |
| | 5 | 4.0 | 501.3 | 232.4 | 3.6 | 0.931 |
| | 6 | 5.0 | 526.7 | 257.8 | 4.3 | 0.850 |
| | 7 | 6.0 | 553.5 | 284.6 | 5.0 | 0.782 |
| | 8 | 7.0 | 575.1 | 306.2 | 5.7 | 0.728 |
| | 9 | 8.0 | 596.4 | 327.5 | 6.3 | 0.682 |
| | 10 | 9.0 | 618.5 | 349.6 | 6.9 | 0.640 |
| | 11 | 10.0 | 640.1 | 371.2 | 7.5 | 0.605 |
| | 12 | 12.0 | 680.0 | 411.1 | 8.6 | 0.547 |
| | 13 | 14.0 | 714.8 | 445.9 | 9.6 | 0.501 |
| | 14 | 16.0 | 750.5 | 481.6 | 10.5 | 0.461 |
| | 15 | 18.0 | 782.5 | 513.6 | 11.3 | 0.429 |
| | 16 | 20.0 | 815.1 | 546.2 | 12.1 | 0.400 |
| | 17 | 22.0 | 843.5 | 574.6 | 12.7 | 0.377 |
| | 18 | 24.0 | 869.5 | 600.6 | 13.4 | 0.355 |
| | 19 | 26.0 | 898.7 | 629.8 | 14.0 | 0.335 |
| | 20 | 28.0 | 929.8 | 660.9 | 14.6 | 0.318 |
| | 21 | 30.0 | 959.1 | 690.2 | 15.1 | 0.303 |
| | 22 | 35.0 | 1028.7 | 759.8 | 16.2 | 0.271 |
| | 23 | 40.0 | 1090.2 | 821.3 | 17.2 | 0.245 |
| | 24 | 45.0 | 1143.5 | 874.6 | 18.1 | 0.224 |
| | 25 | 50.0 | 1191.1 | 922.2 | 18.9 | 0.206 |
| | 26 | 55.0 | 1231.0 | 962.1 | 19.5 | 0.191 |
| D | 27 | 59.4 | 1261.4 | 992.5 | 20.1 | 0.179 |
| | | | SECOND FLOW | | | |
| E | 1 | 0.0 | 297.5 | | | |
| | 2 | 5.0 | 302.6 | 5.1 | | |
| | 3 | 10.0 | 319.1 | 16.5 | | |
| | 4 | 15.0 | 331.8 | 12.7 | | |
| | 5 | 20.0 | 343.3 | 11.5 | | |
| | 6 | 25.0 | 352.9 | 9.6 | | |
| F | 7 | 30.1 | 363.3 | 10.3 | | |

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| | | | SECOND CLOSED-IN | | | |
| F | 1 | 0.0 | 363.3 | | | |
| | 2 | 1.0 | 464.4 | 101.1 | 1.0 | 1.794 |
| | 3 | 2.0 | 507.3 | 144.0 | 2.0 | 1.486 |
| | 4 | 3.0 | 538.4 | 175.2 | 2.8 | 1.327 |
| | 5 | 4.0 | 562.9 | 199.7 | 3.7 | 1.211 |
| | 6 | 5.0 | 586.7 | 223.4 | 4.6 | 1.119 |
| | 7 | 6.0 | 607.5 | 244.3 | 5.4 | 1.045 |
| | 8 | 7.0 | 630.2 | 266.9 | 6.3 | 0.982 |
| | 9 | 8.0 | 648.0 | 284.8 | 7.0 | 0.933 |
| | 10 | 9.0 | 667.0 | 303.7 | 7.8 | 0.889 |
| | 11 | 10.0 | 685.9 | 322.6 | 8.6 | 0.849 |
| | 12 | 12.0 | 721.7 | 358.5 | 10.0 | 0.780 |
| | 13 | 14.0 | 753.8 | 390.5 | 11.4 | 0.724 |
| | 14 | 16.0 | 785.0 | 421.8 | 12.7 | 0.678 |
| | 15 | 18.0 | 812.9 | 449.6 | 13.9 | 0.639 |
| | 16 | 20.0 | 840.5 | 477.2 | 15.0 | 0.605 |
| | 17 | 22.0 | 867.3 | 504.1 | 16.1 | 0.573 |
| | 18 | 24.0 | 891.2 | 528.0 | 17.2 | 0.547 |
| | 19 | 26.0 | 915.5 | 552.2 | 18.2 | 0.521 |
| | 20 | 28.0 | 936.0 | 572.7 | 19.1 | 0.499 |
| | 21 | 30.0 | 959.8 | 596.6 | 20.0 | 0.480 |
| | 22 | 35.0 | 1015.4 | 652.2 | 22.2 | 0.436 |
| | 23 | 40.0 | 1066.6 | 703.3 | 24.1 | 0.400 |
| | 24 | 45.0 | 1111.1 | 747.9 | 25.8 | 0.370 |
| | 25 | 50.0 | 1150.2 | 787.0 | 27.4 | 0.344 |
| | 26 | 55.0 | 1185.1 | 821.8 | 28.8 | 0.322 |
| G | 27 | 60.2 | 1216.0 | 852.8 | 30.2 | 0.302 |

REMARKS:

ORIGINAL

TICKET NO: 00886900

CLOCK NO: 14285 HOUR: 12

GAUGE NO: 697

DEPTH: 4598.0

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| **FIRST FLOW** | | | | | | |
| B | 1 | 0.0 | 47.1 | | | |
| | 2 | 5.0 | 117.8 | 70.8 | | |
| | 3 | 10.0 | 170.0 | 52.2 | | |
| | 4 | 15.0 | 209.9 | 39.9 | | |
| | 5 | 20.0 | 242.5 | 32.7 | | |
| | 6 | 25.0 | 268.7 | 26.2 | | |
| C | 7 | 30.3 | 286.9 | 18.1 | | |
| **FIRST CLOSED-IN** | | | | | | |
| C | 1 | 0.0 | 286.9 | | | |
| | 2 | 1.0 | 411.4 | 124.6 | 1.0 | 1.490 |
| | 3 | 2.0 | 457.0 | 170.1 | 1.9 | 1.209 |
| | 4 | 3.0 | 493.8 | 206.9 | 2.8 | 1.042 |
| | 5 | 4.0 | 523.2 | 236.3 | 3.5 | 0.933 |
| | 6 | 5.0 | 548.6 | 261.8 | 4.3 | 0.851 |
| | 7 | 6.0 | 570.9 | 284.0 | 5.0 | 0.782 |
| | 8 | 7.0 | 593.9 | 307.1 | 5.7 | 0.727 |
| | 9 | 8.0 | 613.8 | 326.9 | 6.3 | 0.681 |
| | 10 | 9.0 | 633.4 | 346.5 | 6.9 | 0.641 |
| | 11 | 10.0 | 653.4 | 366.6 | 7.5 | 0.606 |
| | 12 | 12.0 | 691.6 | 404.7 | 8.6 | 0.546 |
| | 13 | 14.0 | 726.1 | 439.3 | 9.6 | 0.500 |
| | 14 | 16.0 | 759.6 | 472.7 | 10.5 | 0.462 |
| | 15 | 18.0 | 792.5 | 505.6 | 11.3 | 0.429 |
| | 16 | 20.0 | 825.8 | 538.9 | 12.0 | 0.401 |
| | 17 | 22.0 | 859.7 | 572.8 | 12.8 | 0.376 |
| | 18 | 24.0 | 891.5 | 604.6 | 13.4 | 0.354 |
| | 19 | 26.0 | 920.8 | 633.9 | 14.0 | 0.335 |
| | 20 | 28.0 | 951.0 | 664.1 | 14.6 | 0.318 |
| | 21 | 30.0 | 980.7 | 693.9 | 15.1 | 0.303 |
| | 22 | 35.0 | 1048.0 | 761.2 | 16.2 | 0.271 |
| | 23 | 40.0 | 1111.6 | 824.7 | 17.2 | 0.245 |
| | 24 | 45.0 | 1164.8 | 877.9 | 18.1 | 0.224 |
| | 25 | 50.0 | 1209.8 | 922.9 | 18.9 | 0.206 |
| | 26 | 55.0 | 1249.0 | 962.1 | 19.5 | 0.191 |
| D | 27 | 59.4 | 1276.1 | 989.2 | 20.1 | 0.179 |
| **SECOND FLOW** | | | | | | |
| E | 1 | 0.0 | 310.2 | | | |
| | 2 | 5.0 | 320.9 | 10.7 | | |
| | 3 | 10.0 | 337.2 | 16.2 | | |
| | 4 | 15.0 | 351.3 | 14.2 | | |
| | 5 | 20.0 | 361.9 | 10.6 | | |
| | 6 | 25.0 | 371.4 | 9.5 | | |
| F | 7 | 30.1 | 381.2 | 9.9 | | |

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| **SECOND CLOSED-IN** | | | | | | |
| F | 1 | 0.0 | 381.2 | | | |
| | 2 | 1.0 | 487.5 | 106.3 | 1.0 | 1.795 |
| | 3 | 2.0 | 530.8 | 149.6 | 2.0 | 1.486 |
| | 4 | 3.0 | 559.6 | 178.4 | 2.9 | 1.326 |
| | 5 | 4.0 | 586.9 | 205.6 | 3.8 | 1.203 |
| | 6 | 5.0 | 609.4 | 228.2 | 4.6 | 1.114 |
| | 7 | 6.0 | 628.5 | 247.3 | 5.5 | 1.044 |
| | 8 | 7.0 | 649.2 | 267.9 | 6.3 | 0.983 |
| | 9 | 8.0 | 667.0 | 285.8 | 7.0 | 0.934 |
| | 10 | 9.0 | 686.4 | 305.2 | 7.8 | 0.887 |
| | 11 | 10.0 | 702.9 | 321.7 | 8.6 | 0.848 |
| | 12 | 12.0 | 735.4 | 354.2 | 10.0 | 0.782 |
| | 13 | 14.0 | 767.7 | 386.5 | 11.4 | 0.726 |
| | 14 | 16.0 | 798.3 | 417.0 | 12.6 | 0.680 |
| | 15 | 18.0 | 826.1 | 444.9 | 13.8 | 0.640 |
| | 16 | 20.0 | 854.2 | 473.0 | 15.0 | 0.605 |
| | 17 | 22.0 | 882.3 | 501.1 | 16.2 | 0.573 |
| | 18 | 24.0 | 906.8 | 525.6 | 17.2 | 0.546 |
| | 19 | 26.0 | 932.0 | 550.8 | 18.2 | 0.522 |
| | 20 | 28.0 | 957.6 | 576.4 | 19.1 | 0.499 |
| | 21 | 30.0 | 981.5 | 600.3 | 20.1 | 0.479 |
| | 22 | 35.0 | 1036.1 | 654.9 | 22.2 | 0.435 |
| | 23 | 40.0 | 1084.4 | 703.2 | 24.1 | 0.400 |
| | 24 | 45.0 | 1129.7 | 748.4 | 25.8 | 0.370 |
| | 25 | 50.0 | 1167.9 | 786.6 | 27.4 | 0.344 |
| | 26 | 55.0 | 1201.7 | 820.5 | 28.8 | 0.322 |
| G | 27 | 60.2 | 1230.0 | 848.8 | 30.2 | 0.302 |

REMARKS:

# ORIGINAL

TICKET NO. 0088900

| | | O.D. | I.D. | LENGTH | DEPTH |
|---|---|---|---|---|---|
| 1 | DRILL PIPE | 4.500 | 3.826 | 4009.0 | |
| 3 | DRILL COLLARS | 6.000 | 2.250 | 424.0 | |
| 50 | IMPACT REVERSING SUB | 6.000 | 2.750 | 1.0 | 4433.5 |
| 3 | DRILL COLLARS | 6.000 | 2.250 | 121.0 | |
| 5 | CROSSOVER | 6.000 | 2.250 | 1.0 | |
| 12 | DUAL CIP VALVE | 5.000 | 0.870 | 6.0 | |
| 60 | HYDROSPRING TESTER | 5.000 | 0.750 | 5.0 | 4566.0 |
| 80 | AP RUNNING CASE | 5.000 | 2.250 | 4.0 | 4568.0 |
| 15 | JAR | 5.000 | 1.750 | 5.0 | |
| 16 | VR SAFETY JOINT | 5.000 | 1.000 | 3.0 | |
| 70 | OPEN HOLE PACKER | 6.750 | 1.530 | 6.0 | 4583.0 |
| 70 | OPEN HOLE PACKER | 6.750 | 1.530 | 6.0 | 4589.0 |
| 20 | FLUSH JOINT ANCHOR | 5.000 | 2.370 | 4.0 | |
| 83 | HT-500 TEMPERATURE CASE | 5.000 | 2.650 | 2.0 | 4596.0 |
| 81 | BLANKED-OFF RUNNING CASE | 5.000 | | 4.0 | 4598.0 |
| | TOTAL DEPTH | | | | 4601.0 |

## EQUIPMENT DATA

ORIGINAL

CROSSBAR PETROLEUM, INC.

LEASE : ALDRICH

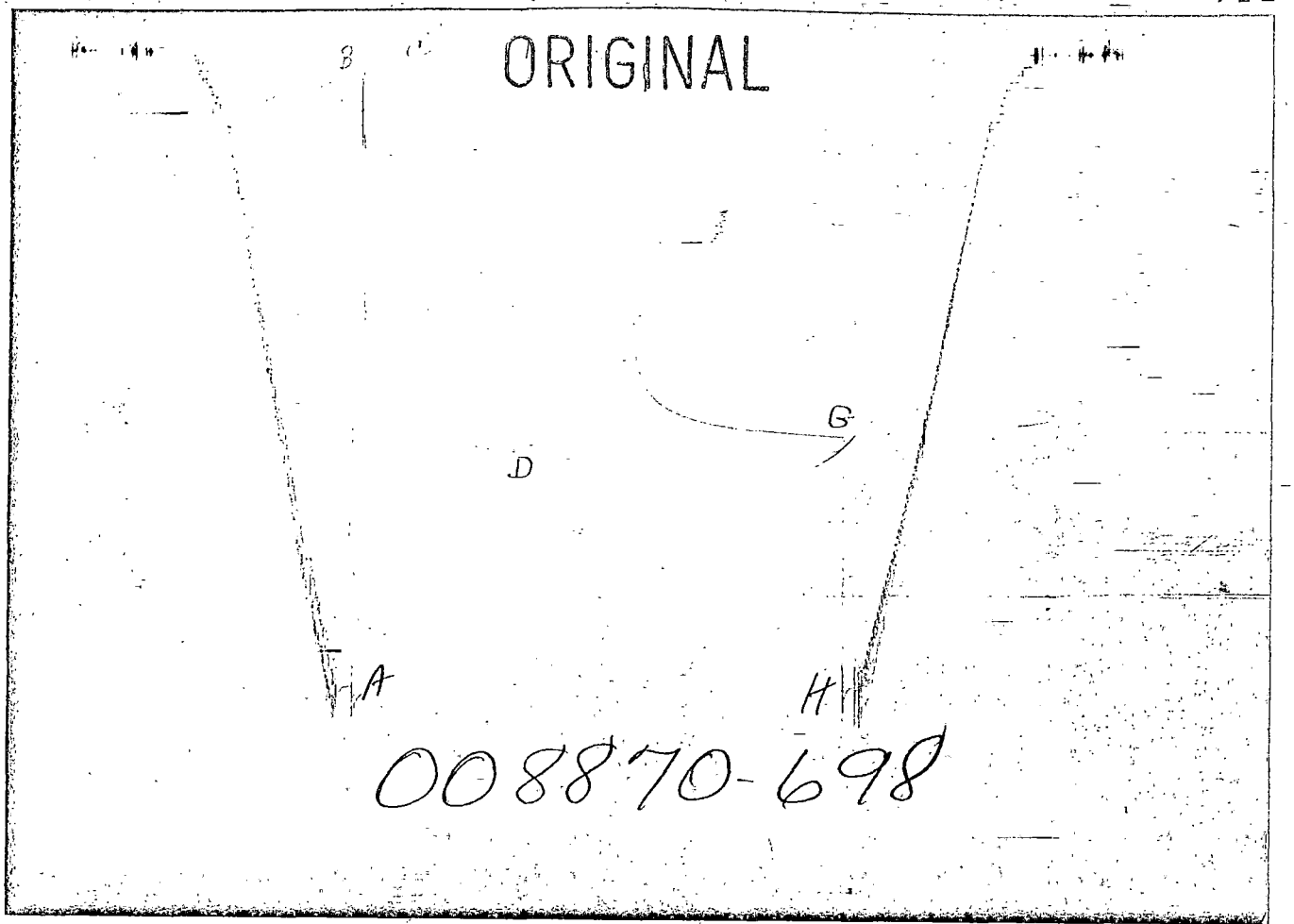
WELL NO.: 1

TEST NO.: 3

TICKET NO. 00887000
19-NOV-90
PRATT.

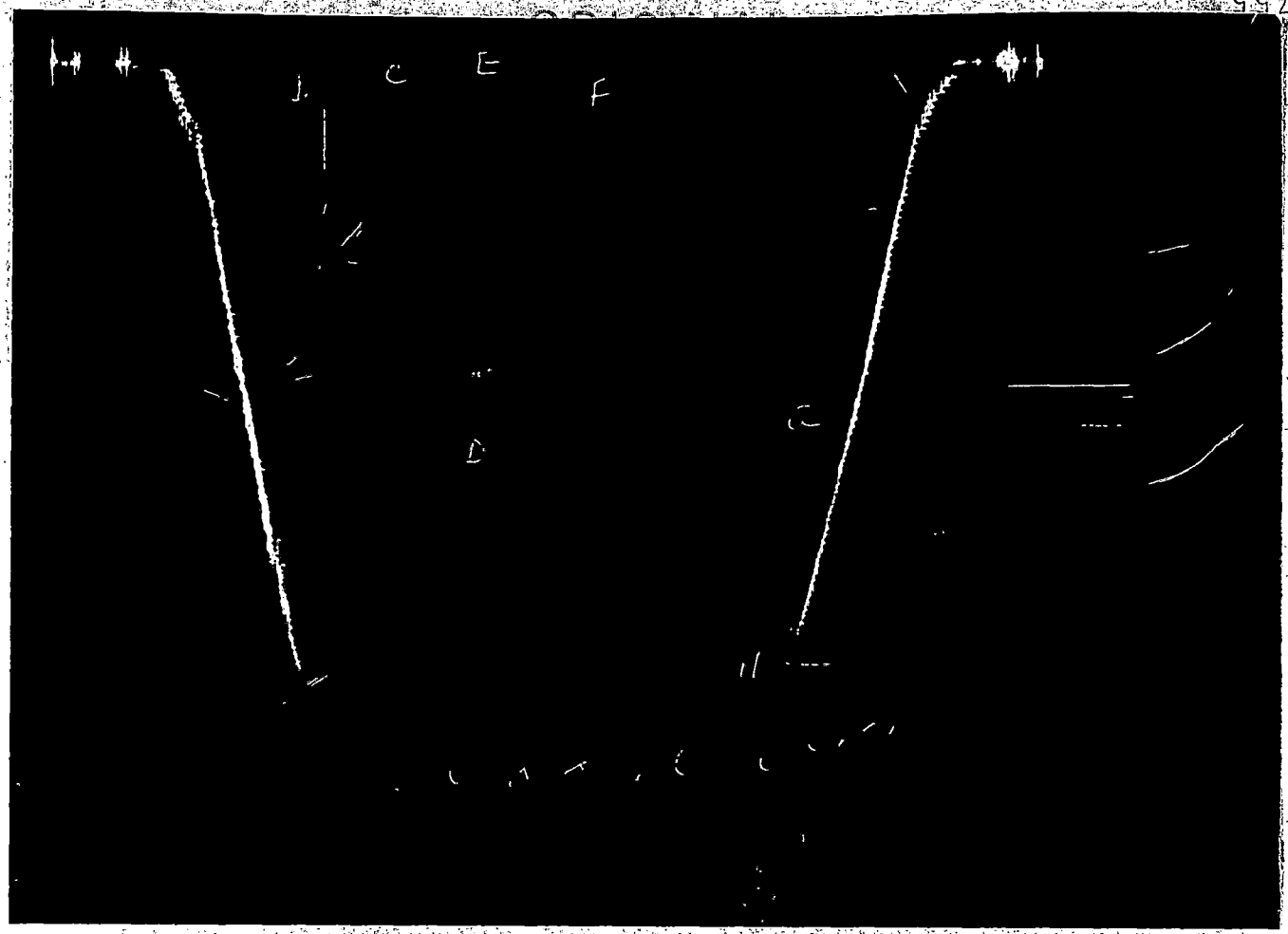
| | | | | | |
|---|---|---|---|---|---|
| LEASE NAME: ALDRICH | WELL NO.: 1 | TEST NO.: 3 | TESTED INTERVAL: 4916.0 - 4928.0 | | LEASE OWNER/COMPANY NAME: CROSSBAR PETROLEUM, INC. |
| LEGAL LOCATION SEC - TWP - RNG: 22-28S-20W | FIELD AREA | COUNTY: KIOWA | STATE: KANSAS | SM | |

DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY




GAUGE NO: 698 DEPTH: 4895.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | | 2351.8 | | | |
| B | INITIAL FIRST FLOW | | 84.8 | 30.0 | 31.3 | F |
| C | FINAL FIRST FLOW | | 67.5 | | | |
| C | INITIAL FIRST CLOSED-IN | | 67.5 | 60.0 | 59.6 | C |
| D | FINAL FIRST CLOSED-IN | | 1482.6 | | | |
| E | INITIAL SECOND FLOW | | 87.5 | 60.0 | 59.9 | F |
| F | FINAL SECOND FLOW | | 99.0 | | | |
| F | INITIAL SECOND CLOSED-IN | | 99.0 | 120.0 | 119.2 | C |
| G | FINAL SECOND CLOSED-IN | | 1421.7 | | | |
| H | FINAL HYDROSTATIC | | 2348.4 | | | |




GAUGE NO: 697 DEPTH: 4925.0 BLANKED OFF: YES HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2371 | 2358.8 | | | |
| B | INITIAL FIRST FLOW | 60 | 87.5 | 30.0 | 31.3 | F |
| C | FINAL FIRST FLOW | 50 | 71.8 | | | |
| C | INITIAL FIRST CLOSED-IN | 50 | 71.8 | 60.0 | 59.6 | C |
| D | FINAL FIRST CLOSED-IN | 1469 | 1483.2 | | | |
| E | INITIAL SECOND FLOW | 50 | 70.2 | 60.0 | 59.9 | F |
| F | FINAL SECOND FLOW | 100 | 104.6 | | | |
| F | INITIAL SECOND CLOSED-IN | 100 | 104.6 | 120.0 | 119.2 | C |
| G | FINAL SECOND CLOSED-IN | 1429 | 1420.8 | | | |
| H | FINAL HYDROSTATIC | 2371 | 2355.2 | | | |

ORIGINAL

756

## EQUIPMENT & HOLE DATA

FORMATION TESTED: MISSISSIPPI
NET PAY (ft): 
GROSS TESTED FOOTAGE: 12.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft): 
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 2311.0
TOTAL DEPTH (ft): 4928.0
PACKER DEPTH(S) (ft): 4910, 4916
FINAL SURFACE CHOKE (in): 0.50000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.40
MUD VISCOSITY (sec): 44
ESTIMATED HOLE TEMP. (°F): 
ACTUAL HOLE TEMP. (°F): 110 @ 4923.0 ft

TICKET NUMBER: 00887000
DATE: 11-14-90 TEST NO: 3
TYPE DST: OPEN HOLE
FIELD CAMP: PRATT.
TESTER: L.R. PARKER
WITNESS: A. BRENSING
DRILLING CONTRACTOR: EAGLE DRILLING COMPANY

## FLUID PROPERTIES FOR RECOVERED MUD & WATER

| SOURCE | RESISTIVITY | | CHLORIDES |
|---|---|---|---|
| RECOVERY | @ | °F | 77500 ppm |
| PIT | @ | °F | 7500 ppm |
| | @ | °F | ppm |
| | @ | °F | ppm |
| | @ | °F | ppm |
| | @ | °F | ppm |

## SAMPLER DATA

Psig AT SURFACE: 
cu.ft. OF GAS: 
cc OF OIL: 
cc OF WATER: 
cc OF MUD: 
TOTAL LIQUID cc: 

## HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 35.0 @ 60 °F
GAS/OIL RATIO (cu.ft. per bbl): 
GAS GRAVITY: 

## CUSHION DATA

| TYPE | AMOUNT | WEIGHT |
|---|---|---|
| | | |
| | | |

## RECOVERED:

60 FEET OF FREE OIL
90 FEET OF EMULSION CUT OIL
90 FEET OF WATER

MEASURED FROM TESTER VALVE

## REMARKS:

----------TIGHT HOLE INFORMATION----------

ORIGINAL

TYPE & SIZE MEASURING DEVICE: OMERLA WELL TESTER | TICKET NO: 00887000

| TIME | CHOKE SIZE | SURFACE PRESSURE PSI | GAS RATE MCF | LIQUID RATE BPD | REMARKS |
|---|---|---|---|---|---|
| 11-14-90 | | | | | |
| 1815 | | | | | CALLED OUT |
| 2030 | | | | | ON LOCATION |
| 2115 | | | | | PICKED UP TOOL |
| 2130 | | | | | TOOL IN TABLE |
| 2140 | | | | | TOOL THROUGH TABLE |
| 233677 | | | | | ON BOTTOM |
| 2330 | BH | | | | TOOL OPENED WITH STRONG BLOW |
| 2331 | | | | | OPENED 2" LINE WITH 1 1/2" CHOKE |
| | | | | | GAS TO THE SURFACE IN 3 MINUTES |
| 2333 | | | | | CHANGED TO 1" CHOKE |
| 2340 | 1 | 4 | 283 | | |
| 2350 | 1 | 2.5 | 220 | | |
| 2400 | 1 | 2 | 195 | | CLOSED TOOL |
| 11-15-90 | | | | | |
| 0100 | | | | | OPENED WELL TO 1/2" CHOKE |
| 0110 | 1/2 | 26 | 211 | | |
| 0120 | 1/2 | 22 | 189 | | |
| 0130 | 1/2 | 18 | 166 | | |
| 0140 | 1/2 | 15 | 147 | | |
| 0150 | 1/2 | 13 | 134 | | |
| 0200 | 1/2 | 12 | 129 | | CLOSED TOOL |
| 0400 | | | | | OFF BOTTOM |
| 0550 | | | | | TOOL IN TABLE |
| | | | | | |
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# ORIGINAL

| | |
|---|---|
| TICKET NO: 00887000 | GAUGE NO: 698 |
| CLOCK NO: 26740 HOUR: 12 | DEPTH: 4895.0 |

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| | | **FIRST FLOW** | | | | |
| B | 1 | 0.0 | 84.8 | | | |
| | 2 | 3.0 | 75.8 | -8.9 | | |
| | 3 | 6.0 | 72.9 | -3.0 | | |
| | 4 | 9.0 | 71.4 | -1.4 | | |
| | 5 | 12.0 | 70.3 | -1.2 | | |
| | 6 | 15.0 | 69.3 | -1.0 | | |
| | 7 | 18.0 | 68.5 | -0.7 | | |
| | 8 | 21.0 | 68.0 | -0.5 | | |
| | 9 | 24.0 | 67.6 | -0.4 | | |
| | 10 | 27.0 | 67.6 | 0.0 | | |
| | 11 | 30.0 | 67.2 | -0.5 | | |
| C | 12 | 31.3 | 67.5 | 0.3 | | |
| | | **FIRST CLOSED-IN** | | | | |
| C | 1 | 0.0 | 67.5 | | | |
| | 2 | 1.0 | 863.5 | 796.1 | 0.9 | 1.530 |
| | 3 | 2.0 | 1127.2 | 1059.8 | 1.9 | 1.216 |
| | 4 | 3.0 | 1200.5 | 1133.1 | 2.7 | 1.059 |
| | 5 | 4.0 | 1246.9 | 1179.4 | 3.6 | 0.944 |
| | 6 | 5.0 | 1277.6 | 1210.1 | 4.3 | 0.859 |
| | 7 | 6.0 | 1302.0 | 1234.5 | 5.1 | 0.791 |
| | 8 | 7.0 | 1319.1 | 1251.6 | 5.7 | 0.738 |
| | 9 | 8.0 | 1335.0 | 1267.6 | 6.3 | 0.693 |
| | 10 | 9.0 | 1347.5 | 1280.1 | 7.0 | 0.650 |
| | 11 | 10.0 | 1360.3 | 1292.8 | 7.6 | 0.614 |
| | 12 | 12.0 | 1378.4 | 1310.9 | 8.7 | 0.557 |
| | 13 | 14.0 | 1393.3 | 1325.8 | 9.7 | 0.510 |
| | 14 | 16.0 | 1406.1 | 1338.7 | 10.6 | 0.470 |
| | 15 | 18.0 | 1415.8 | 1348.3 | 11.4 | 0.438 |
| | 16 | 20.0 | 1425.4 | 1357.9 | 12.2 | 0.409 |
| | 17 | 22.0 | 1433.7 | 1366.2 | 12.9 | 0.384 |
| | 18 | 24.0 | 1440.7 | 1373.2 | 13.6 | 0.362 |
| | 19 | 26.0 | 1446.5 | 1379.1 | 14.2 | 0.343 |
| | 20 | 28.0 | 1451.9 | 1384.4 | 14.8 | 0.326 |
| | 21 | 30.0 | 1455.7 | 1388.3 | 15.3 | 0.310 |
| | 22 | 35.0 | 1464.0 | 1396.5 | 16.5 | 0.277 |
| | 23 | 40.0 | 1470.3 | 1402.8 | 17.6 | 0.251 |
| | 24 | 45.0 | 1474.7 | 1407.2 | 18.4 | 0.229 |
| | 25 | 50.0 | 1478.0 | 1410.5 | 19.2 | 0.211 |
| | 26 | 55.0 | 1480.7 | 1413.3 | 19.9 | 0.195 |
| D | 27 | 59.6 | 1482.6 | 1415.1 | 20.5 | 0.183 |
| | | **SECOND FLOW** | | | | |
| E | 1 | 0.0 | 87.5 | | | |
| | 2 | 5.0 | 72.1 | -15.4 | | |
| | 3 | 10.0 | 77.5 | 5.4 | | |
| | 4 | 15.0 | 81.8 | 4.4 | | |
| | 5 | 20.0 | 83.8 | 2.0 | | |

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| | | SECOND FLOW - CONTINUED | | | | |
| | 6 | 25.0 | 85.6 | 1.7 | | |
| | 7 | 30.0 | 89.4 | 3.8 | | |
| | 8 | 35.0 | 92.9 | 3.5 | | |
| | 9 | 40.0 | 94.4 | 1.6 | | |
| | 10 | 45.0 | 95.5 | 1.1 | | |
| | 11 | 50.0 | 96.7 | 1.2 | | |
| | 12 | 55.0 | 97.8 | 1.1 | | |
| F | 13 | 59.9 | 99.0 | 1.2 | | |
| | | **SECOND CLOSED-IN** | | | | |
| F | 1 | 0.0 | 99.0 | | | |
| | 2 | 1.0 | 773.2 | 674.2 | 1.0 | 1.967 |
| | 3 | 2.0 | 1017.2 | 918.2 | 1.9 | 1.674 |
| | 4 | 3.0 | 1091.6 | 992.6 | 2.9 | 1.496 |
| | 5 | 4.0 | 1135.0 | 1036.0 | 3.8 | 1.378 |
| | 6 | 5.0 | 1166.8 | 1067.8 | 4.8 | 1.281 |
| | 7 | 6.0 | 1191.9 | 1092.9 | 5.7 | 1.206 |
| | 8 | 7.0 | 1211.0 | 1112.0 | 6.5 | 1.145 |
| | 9 | 8.0 | 1225.8 | 1126.8 | 7.3 | 1.094 |
| | 10 | 9.0 | 1240.2 | 1141.3 | 8.2 | 1.048 |
| | 11 | 10.0 | 1252.8 | 1153.8 | 9.0 | 1.004 |
| | 12 | 12.0 | 1271.6 | 1172.6 | 10.6 | 0.934 |
| | 13 | 14.0 | 1285.7 | 1186.8 | 12.1 | 0.876 |
| | 14 | 16.0 | 1298.3 | 1199.3 | 13.6 | 0.825 |
| | 15 | 18.0 | 1308.0 | 1209.0 | 15.0 | 0.783 |
| | 16 | 20.0 | 1316.9 | 1218.0 | 16.4 | 0.744 |
| | 17 | 22.0 | 1324.3 | 1225.3 | 17.7 | 0.712 |
| | 18 | 24.0 | 1331.3 | 1232.3 | 19.0 | 0.681 |
| | 19 | 26.0 | 1337.8 | 1238.8 | 20.2 | 0.653 |
| | 20 | 28.0 | 1343.2 | 1244.2 | 21.4 | 0.629 |
| | 21 | 30.0 | 1348.5 | 1249.5 | 22.6 | 0.606 |
| | 22 | 35.0 | 1360.0 | 1261.0 | 25.3 | 0.557 |
| | 23 | 40.0 | 1369.2 | 1270.2 | 27.8 | 0.516 |
| | 24 | 45.0 | 1377.0 | 1278.0 | 30.1 | 0.481 |
| | 25 | 50.0 | 1383.1 | 1284.1 | 32.3 | 0.450 |
| | 26 | 55.0 | 1388.3 | 1289.3 | 34.3 | 0.424 |
| | 27 | 60.0 | 1392.5 | 1293.5 | 36.2 | 0.401 |
| | 28 | 70.0 | 1399.9 | 1300.9 | 39.6 | 0.362 |
| | 29 | 80.0 | 1405.7 | 1306.7 | 42.6 | 0.330 |
| | 30 | 90.0 | 1411.2 | 1312.2 | 45.3 | 0.304 |
| | 31 | 100.0 | 1414.9 | 1315.9 | 47.7 | 0.281 |
| | 32 | 110.0 | 1419.3 | 1320.4 | 49.8 | 0.262 |
| G | 33 | 119.2 | 1421.7 | 1322.7 | 51.7 | 0.247 |

REMARKS:

TICKET NO: 00887000

CLOCK NO: 14285 HOUR: 12

GAUGE NO: 697

DEPTH: 4925.0

| REF | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|
| **FIRST FLOW** | | | | | |
| B 1 | 0.0 | 87.5 | | | |
| 2 | 3.0 | 79.8 | -7.6 | | |
| 3 | 6.0 | 77.8 | -2.0 | | |
| 4 | 9.0 | 76.0 | -1.9 | | |
| 5 | 12.0 | 74.7 | -1.3 | | |
| 6 | 15.0 | 73.3 | -1.4 | | |
| 7 | 18.0 | 72.3 | -1.0 | | |
| 8 | 21.0 | 72.2 | -0.1 | | |
| 9 | 24.0 | 71.7 | -0.5 | | |
| 10 | 27.0 | 71.7 | 0.0 | | |
| 11 | 30.0 | 71.9 | 0.2 | | |
| C 12 | 31.3 | 71.8 | -0.1 | | |
| **FIRST CLOSED-IN** | | | | | |
| C 1 | 0.0 | 71.8 | | | |
| 2 | 1.0 | 1002.7 | 930.9 | 1.0 | 1.493 |
| 3 | 2.0 | 1166.2 | 1094.4 | 1.9 | 1.227 |
| 4 | 3.0 | 1234.4 | 1162.6 | 2.7 | 1.056 |
| 5 | 4.0 | 1272.5 | 1200.7 | 3.6 | 0.942 |
| 6 | 5.0 | 1297.1 | 1225.3 | 4.3 | 0.861 |
| 7 | 6.0 | 1319.5 | 1247.7 | 5.0 | 0.792 |
| 8 | 7.0 | 1335.8 | 1264.0 | 5.7 | 0.736 |
| 9 | 8.0 | 1349.4 | 1277.6 | 6.4 | 0.691 |
| 10 | 9.0 | 1360.9 | 1289.1 | 7.0 | 0.651 |
| 11 | 10.0 | 1371.0 | 1299.2 | 7.6 | 0.617 |
| 12 | 12.0 | 1387.6 | 1315.8 | 8.7 | 0.556 |
| 13 | 14.0 | 1400.6 | 1328.8 | 9.7 | 0.509 |
| 14 | 16.0 | 1411.6 | 1339.8 | 10.6 | 0.471 |
| 15 | 18.0 | 1421.7 | 1349.9 | 11.4 | 0.437 |
| 16 | 20.0 | 1429.8 | 1358.0 | 12.2 | 0.408 |
| 17 | 22.0 | 1437.0 | 1365.2 | 12.9 | 0.384 |
| 18 | 24.0 | 1443.2 | 1371.4 | 13.6 | 0.363 |
| 19 | 26.0 | 1448.7 | 1376.9 | 14.2 | 0.343 |
| 20 | 28.0 | 1453.4 | 1381.6 | 14.8 | 0.325 |
| 21 | 30.0 | 1457.5 | 1385.7 | 15.3 | 0.310 |
| 22 | 35.0 | 1465.0 | 1393.2 | 16.5 | 0.277 |
| 23 | 40.0 | 1470.6 | 1398.8 | 17.5 | 0.251 |
| 24 | 45.0 | 1475.2 | 1403.4 | 18.4 | 0.229 |
| 25 | 50.0 | 1478.5 | 1406.7 | 19.2 | 0.211 |
| 26 | 55.0 | 1481.3 | 1409.5 | 19.9 | 0.195 |
| D 27 | 59.6 | 1483.2 | 1411.4 | 20.5 | 0.183 |
| **SECOND FLOW** | | | | | |
| E 1 | 0.0 | 70.2 | | | |
| 2 | 5.0 | 75.2 | 5.0 | | |
| 3 | 10.0 | 82.7 | 7.5 | | |
| 4 | 15.0 | 86.2 | 3.6 | | |
| 5 | 20.0 | 88.2 | 2.0 | | |

| REF | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|
| *SECOND FLOW - CONTINUED* | | | | | |
| 6 | 25.0 | 91.1 | 2.9 | | |
| 7 | 30.0 | 95.8 | 4.7 | | |
| 8 | 35.0 | 98.1 | 2.3 | | |
| 9 | 40.0 | 99.3 | 1.2 | | |
| 10 | 45.0 | 101.3 | 2.0 | | |
| 11 | 50.0 | 102.3 | 1.0 | | |
| 12 | 55.0 | 104.1 | 1.8 | | |
| F 13 | 59.9 | 104.6 | 0.6 | | |
| **SECOND CLOSED-IN** | | | | | |
| F 1 | 0.0 | 104.6 | | | |
| 2 | 1.0 | 809.6 | 704.9 | 1.0 | 1.961 |
| 3 | 2.0 | 1057.2 | 952.5 | 2.0 | 1.659 |
| 4 | 3.0 | 1115.9 | 1011.3 | 2.9 | 1.493 |
| 5 | 4.0 | 1156.3 | 1051.7 | 3.8 | 1.378 |
| 6 | 5.0 | 1184.8 | 1080.2 | 4.8 | 1.281 |
| 7 | 6.0 | 1205.3 | 1100.6 | 5.7 | 1.207 |
| 8 | 7.0 | 1223.8 | 1119.2 | 6.5 | 1.145 |
| 9 | 8.0 | 1237.0 | 1132.3 | 7.4 | 1.093 |
| 10 | 9.0 | 1250.0 | 1145.4 | 8.2 | 1.046 |
| 11 | 10.0 | 1260.3 | 1155.6 | 9.0 | 1.005 |
| 12 | 12.0 | 1277.1 | 1172.5 | 10.6 | 0.934 |
| 13 | 14.0 | 1290.6 | 1185.9 | 12.2 | 0.875 |
| 14 | 16.0 | 1301.6 | 1197.0 | 13.6 | 0.826 |
| 15 | 18.0 | 1312.0 | 1207.3 | 15.0 | 0.782 |
| 16 | 20.0 | 1320.1 | 1215.5 | 16.4 | 0.745 |
| 17 | 22.0 | 1327.4 | 1222.7 | 17.7 | 0.711 |
| 18 | 24.0 | 1333.9 | 1229.2 | 19.0 | 0.681 |
| 19 | 26.0 | 1339.5 | 1234.9 | 20.2 | 0.654 |
| 20 | 28.0 | 1345.8 | 1241.2 | 21.4 | 0.628 |
| 21 | 30.0 | 1350.6 | 1245.9 | 22.6 | 0.606 |
| 22 | 35.0 | 1361.1 | 1256.5 | 25.3 | 0.556 |
| 23 | 40.0 | 1369.4 | 1264.7 | 27.8 | 0.516 |
| 24 | 45.0 | 1376.0 | 1271.3 | 30.1 | 0.481 |
| 25 | 50.0 | 1382.6 | 1278.0 | 32.3 | 0.451 |
| 26 | 55.0 | 1388.0 | 1283.3 | 34.3 | 0.424 |
| 27 | 60.0 | 1392.4 | 1287.7 | 36.2 | 0.401 |
| 28 | 70.0 | 1399.3 | 1294.7 | 39.6 | 0.362 |
| 29 | 80.0 | 1405.0 | 1300.3 | 42.6 | 0.330 |
| 30 | 90.0 | 1407.9 | 1303.2 | 45.3 | 0.304 |
| 31 | 100.0 | 1412.7 | 1308.0 | 47.7 | 0.281 |
| 32 | 110.0 | 1417.2 | 1312.6 | 49.8 | 0.262 |
| G 33 | 119.2 | 1420.8 | 1316.2 | 51.7 | 0.247 |

REMARKS:

ORIGINAL

TICKET NO. 00887000

| | | O.D. | I.D. | LENGTH | DEPTH |
|---|---|---|---|---|---|
| 1 | DRILL PIPE..... | 4.500 | 3.826 | 4336.0 | |
| 3 | DRILL COLLARS..... | 6.000 | 2.250 | 454.0 | |
| 50 | IMPACT REVERSING SUB..... | 6.000 | 2.750 | 1.0 | 4790.5 |
| 3 | DRILL COLLARS..... | 6.000 | 2.250 | 91.0 | |
| 5 | CROSSOVER..... | 6.000 | 2.250 | 1.0 | |
| 12 | DUAL CIP VALVE..... | 5.000 | 0.870 | 6.0 | |
| 60 | HYDROSPRING TESTER..... | 5.000 | 0.750 | 5.0 | 4893.0 |
| 80 | AP RUNNING CASE..... | 5.000 | 2.250 | 4.0 | 4895.0 |
| 15 | JAR..... | 5.000 | 1.750 | 5.0 | |
| 16 | VR SAFETY JOINT..... | 5.000 | 1.000 | 3.0 | |
| 70 | OPEN HOLE PACKER..... | 6.750 | 1.530 | 6.0 | 4910.0 |
| 70 | OPEN HOLE PACKER..... | 6.750 | 1.530 | 6.0 | 4916.0 |
| 20 | FLUSH JOINT ANCHOR..... | 5.000 | 2.370 | 4.0 | |
| 83 | HT-500 TEMPERATURE CASE..... | 5.000 | 2.650 | 2.0 | 4923.0 |
| 81 | BLANKED-OFF RUNNING CASE..... | 5.000 | | 4.0 | 4925.0 |
| | TOTAL DEPTH | | | | 4928.0 |

EQUIPMENT DATA