STATE CORPORATION COMMISSION OF KANSAS OIL & GAS CONSERVATION DIVISION

| WELL COMPLETION FOR | EM |
|-------------------------|-------|
| ACO-1 WELL HISTORY | 1 |
| DESCRIPTION OF WELL AND | LEASE |

espect -

| WELL COMPLETION FORM | County Wichita |
|---|---|
| ACO-1 WELL HISTORY DESCRIPTION OF WELL AND LEASE | NW _SE _SW _sec. 34 _Twp. 20S _Rge. 38E |
| Operator: License # 6568 | 740 Feet from (SPE (circle one) Line of Section |
| Mame: Kaiser-Francis Oil Company | 1780 Feet from S(W)(circle one) Line of Section |
| Address P. O. Box 21468 | Footages Calculated from Negrest Outside Section Corner: NE, SE, NW or SW (circle one) |
| city/State/Zip Tulsa, OK 74121-1468 | Lease Name <u>Caldwell "C"</u> Well # 4 |
| Purchaser: Texaco Trading & Transp. | Field Name Rupp |
| Operator Contact Person: Charlotte Van Valkenburg | Producing Formation Morrow |
| Phone (918) 491-4314 | Elevation: Ground 3406 KB 3411 |
| Contractor: Name: Murfin Drilling Company | Total Depth 5000 PBTD 4949 |
| License: n/a | Amount of Surface Pipe Set and Cemented at Feet |
| Wellsite Geologist, Harold R. Trapp | Multiple Stage Cementing Collar Used?Yes X No |
| Designate Type of Completion | If yes, show depth set Feet |
| New Well Re-Entry Workover | If Alternate II completion, cement circulated from |
| | feet depth to w/ sx cmt |
| Gas ENHR SIGU Dry Other (Core, WSW, Expl., Cathodic, etc) | Drilling Fluid Management Plan AH, 2 9-8-98 (Data must be collected from the Reserve PIZ) |
| 11 MOLKOABLYKS-Eurlä: ofd metr juio as jottoms: | |
| | Chloride content 34000 ppm Fluid volume 1140 bbl: |
| n/a Well Name: | Dewstering method usedEvaporation |
| Comp. Date Old Total Depth | Location of fluid disposal if hauled offsite: |
| Commingled Docket No. | Operator Name |
| Dual Completion Docket No Other (SVD or In]?) Docket No | Lesse NameLicense No |
| 2-13-97 2/20/97 3/14/97 | Quarter Sec TwpS RngE/W |
| Spud Date Date Reached TD Completion Date | County Docket No |
| Derby Building, Wichita, Kansas 67202, within 120 days of Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on 12 months if requested in writing and submitted with the months). One copy of all wireline logs and geologist well | l be filed with the Kansas Corporation Commission, 200 Colorado of the spud date, recompletion, workover or conversion of a well, a side two of this form will be held confidential for a period of the form (see rule 82-3-107 for confidentiality in excess of 12 report shall be attached with this form. ALL CEMENTING TICKETS olls. Submit CP-111 form with all temporarily abandoned wells. |
| All requirements of the statutes, rules and regulations promu- with and the statements herein are complete and correct to t | igated to regulate the oil and gas industry have been fully complied the best of my knowledge. |
| Sharlotte Van Valkenburg | 08-21-97 |
| Signature <u>Jan Jalkenbe</u> | K.C.C. OFFICE USE ONLY. |
| Title Technical Coordinator Dete 8 | /19/97 C Viseline Log Received. Geologist Report Received. |
| 40.97 | ugust |
| Notary Public Othy Public ma | KCC SWD/Rep MSPA Cther |
| ROL J. HALL | (Specify) |

Commission Lawrence St. Scot

API MO. 15- 203-201240000

Form ACO-1 (7-91)

| 21 | DE | THO | |
|----|----|-----|--|

| | | | | | ii lieli | | * |
|--|----------------------------------|---|--------------------|-------------------|----------------------------------|--------------------|--|
| Operator Name <u>Kai</u> | • | | Lease Hame | Caldw | rell "C" | Well # | 4 |
| Sec. 34 Twp. 20S | Rge. 38 | East West: | County | Wichi | ta | <u></u> | |
| INSTRUCTIONS: Show interval tested, tim hydrostatic pressures if more space is need | e tool open a , bottom hole : | nd closed, flowing a comperature, fluid re | and shut-in pre- | ssures, whetl | her shut-in pro | ssure rea | ched static level |
| Drill Stem Tests Take | | E γ₀₃ □ Ν₀ geological Rep | Z Log | Formation | n (Top), Depth | and Datum | , y □ .\$ample |
| Samples Sent to Geold | ogical Survey | ☑ _{Y••} □ _{N•} | j Kame j | | Тор | | Datum |
| Cores Taken | | ☐ Yes ☑ No | Marmato | on ee Shale | 4388 4524 | | |
| Electric Log Run (Submit Copy.) | | ⊠ Yes □·No | Morrow Up. Mor | Shale row Sst. | 4754 4764 | | |
| List All E.Logs Run: | | | j St. Gen | ievieve | 4900 | l | |
| HR-DIFL-GR, CD- | CN-GR, SBL- | GR | | | , | | |
| | Report al | CASING RECORD | New U | | production, et | c. | |
| 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 | 24 | 298 | Lite | 200 | _ |
| Production | 7 7/8 | 5 1/2 | 15.5 | 5000 | Prem + | 280 | n/a |
| DV tool | <u> </u> | | | 1127 | Prem | 120 | n/a |
| | | ADDITIONAL | CEMENTING/SQUE | EZE RECORD | · · | | <u>- </u> |
| Purpose: | Depth Top Bottom | Type of Cement | #Sacks Used | 1 | ype and Percen | t Additive | \$ |
| Protect Casing Plug Back TD | j j | | | | " | | |
| Plug Off Zone | | | | | | | |
| Shots Per Foot | | RECORD - Bridge Plu of Each Interval P | | | Fracture, Shot, Kind of Mater | • | ueeze Record Depth |
| 2 . | 4768' - 477 | 76', 4781' - 4° | 784' | 750 g. 7 | '1% FE | | 4768-4784 |
| | | | | | | | |
| | | | - | | | | |
| | | | | | | | |
| TUBING RECORD 2 | 3/8 | Set At 4789 | Packer At — | Liner Run | ☐ _{Y••} ☑ | No | |
| Date of First, Resum 3 | od Production, /20/97 | SWD or In]. Produ | cing Method | lowing Spum | ping Gas L | ift 🗆 oti | A her (Explain) |
| Estimated Production Per 24 Hours | 01ι 52 | Bbis. Gas | Mcf Water | | Gas-Oil | | Gravity |
| Disposition of Gas: | | | HOD OF COMPLETE | ON | | A • • • • • | coduct ion interva |
| Vented Sold (If vented, sub- | Used on Le | open I | Hole 🖾 Perf. | Dually | Comp. Commi | NRI | 768 478 |
| ्षह प्राप्त प्रमाणनाता, इतिहास व | -IT MLD-15.) | | (Snarff-) | | | • | |

INVOICE

\$ 38 KM 1-20

REMIT TO: BAY BEINAG

| • | • | v | • | 2000 | • | , | - | ~ | | | | | |
|---|---|---|----|------|-----|-----|---|-----|----|-----|----|-----|---|
| D | A | L | LA | S. | T | X | 7 | 5 3 | 19 | 5 - | 10 | 14 | 6 |
| | | | (| Corp | ora | ate | F | IN | 73 | -02 | 71 | 128 | 0 |

| HALLIB | U | RT | ON | ENERGY | SERVICES |
|--------|---|----|----|---------------|-----------------|
| | | | | | |

INVOICE NO. "" DATE A Division of Halliburton Company

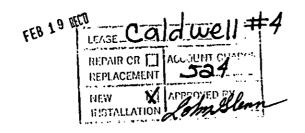
| WELL LEASE NO./PR | OJECT | WELL/F | PROJECT LOCATION | STATE | 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | WNER | 3/1997 4 (4) (4) |
|-------------------|----------|------------|------------------|--------|---|-----------------|---------------------|
| CALOWELL "C" 4 | | WICHITA | ORIGINAL | KS | SANE | | |
| SERVICE LOCATION | CON | TRACTOR | JOB PUR | POSE * | months control than | TICKET | DATE |
| HAYS | NURFIN D | RILLING | SHOWN BELOW | | | 02/13 | 3/1997 |
| ACCT. NO. | R AGENT | VENDOR NO. | CUSTOMER P.O. N | JMBER | SHIPPE | VIA WIT SUPPRIN | FILE NO. |
| 462760 JOHN GLENN | | | | | COMPANY | TRUCK | 20524 |

DIRECT CORRESPONDENCE TO:

1102 E. 8TH HAYS KS 67601 913-625-3431

Kalser Francis Oll Co 515 EAST 3RD ELLINWOOD, KS 67526

| REFERENCE NO. | DESCRIPTION | QUANTITY | UM | UNIT PRICE | AMOUNT (1867) |
|---------------|------------------|----------|----|------------|---------------|
| | *-KANSAS STATE S | ALES TAX | | | 136.74 |
| | *-HAYS CITY SALE | S TAX | | | 27.92 |
| | | | | - | |
| | | | | | |
| | | | | | |



NAME LEASE CALD 927110 EY MM EXP.

INVOICE TOTAL - PLEASE PAY THIS AMOUNT =================

\$3,834.20



INVOICE

468760 JOHN GLENN



REMIT TO: P.O. BOX 951046

DALLAS, TX 75395-1046 Corporate FIN 73-0271280

| INVOICE NO. | DATE (FEED 13) |
|-------------|----------------|
| | |
| 106175 | 02/12/1002 |

A Division of Halliburton Company

| W. A. Conc., 16 WELL | LEASE NO/PROJECT | | /PROJECT LOCATION | STATE | | 02/13/1997 WNER |
|----------------------|------------------|-------------|-------------------|----------|---------|--------------------|
| CALDWELL "C" | | WICHITA | | KS | SANE | * |
| SERVICE LOCA | | CONTRACTOR | JOB | PURPOSE | JARE | TICKET DATE |
| HAYS | nure | IN DRILLING | SHOWN BELOW | | | 02/13/1997 |
| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O | . NUMBER | SHIPPEO | VIA FILE NO. |

DIRECT CORRESPONDENCE TO:

KAISER-FRANCIS OIL CO 515 EAST 3RD ELLINWOOD, KS 67526 1102 E. 8TH HAYS KS 67601 913-625-3431

ORIGINAL

COMPANY TRUCK 20524

| REFERENCE NO. | DESCRIPTION | QUANTITY | UM | UNIT PRICE | AMOUNT | |
|---------------|--------------------------------|------------|------------|------------|-------------|---|
| PRICING AR | ER - MAD CONTINENT | | | | | |
| JOB PURPOS | E - CEMENT SURFACE CASING | | | | | |
| 000-117 | MILEAGE CEMENTING ROUND TRIP | | H.I Unt | 2.99 | 418.60 | |
| 000-119 | MILENGE FOR CREW | 140 | MI UNT | 1.60 | 224.00 | |
| 001-016 | CEMENTING CASING | 306 | FT UNT | 650.00 | 650.00 | |
| 120 | GUIDE SHOE - 8 5/8" BRD THD. | | EA | 216.00 | 216.00 | * |
| | INSERT FLOAT VALVE - 8 5/8"8RD | π | EA | 221.00 | 221.00 | * |
| | FILL- UP UNIT 7"- 8 5/8" | 1 | EA | 64.00 | 64.00 | 4 |
| | CENTRACIZER-8-5/8 X 12-1/4 | 3 | EA | 80.00 | 240.00 | • |
| 380 | HALLIDURTON WELD A | 1 | EA | 16.75 | 16.75 | * |
| 880,1000 | | | | | | |
| | CEMENTING PLUG SW ACUM TOP | 8 5/8 1 | IN EA | 120.00 | 120.00 | * |
| 204 310 | CEMENT - HALL LIGHT STANDARD | 1.15 | SK | 9.11 | 1,047.65 | A |
| 500 303 | CEMERC STANDARD | R 5 | SK | 10.83 | 920.55 | * |
| 200 100 | ANHYPPONS CRUCIUM CHLORIDE | 4 | SK | 40.75 | 163.00 | * |
| 54 - 310 | FROCELE | 29 | LB | 1.65 | 47.85 | ÷ |
| 500-207 | BULK SERVICE CHARGE | 210 | CFT | 1.35 | 283.50 | * |
| 500-306 | MILEAGE CATS MAT DEL OR RETURN | 641.025 | TH1 | 1.05 | \$673.08 | * |
| | INVOICE SUBTOTAL | | | \ | (, 5,305,98 | |
| | DISCOUNT-(BID) | | | 心 | 1:636.44- | |
| | INVOICE BID ANOUNT | | | | 3,669.54 | |
| | **** CONTINUED C | N NEXT PAG | E *** | _`I | | |

P.O. BOX 951046

JICE

JOHN GLENN

462760

HALLIBURTON ENERGY SERVICES

A Division of Halliburton Company

DALLAS, TX 75395-1046 Corporate FIN 73-0271280

COMPANY TRUCK

20778

| INVOICE NO. | DATE |
|-------------|------|
| | |

| | | | | | TOUTLO | / | 1 4 7 7 7 |
|--------------------|-----------|--------------------|------------------|-----------------|---------|---|-----------|
| WELL LEASE NO PROJ | ECT : | A SAME A COMPANY | PROJECT LOCATION | STATE | 01 | j.j. | |
| DWELL C-4 | • | WICHITA | | KS | SAME | | |
| SERVICE LOCATION | CONTI | ACTOR OF THE PARTY | K Dr. Carlo | JOB PURPOSE | | TICKET | DATE |
| ERAL | MURFIN DR | | SHOWN BEL | ow | | 02/22 | /1997 |
| T. NO. CUSTOMER A | AGENT | ON CHANG | CUSTO | MER P.O. NUMBER | SHIPPED | VIA | FILE NO. |
| | | | | | | | |

ORIGINAL

KAISER-FRANCIS DIL CD 515 EAST 3RD ELLINWOOD, KS 67526

DIRECT CORRESPONDENCE TO:

P 0 BOX 1598 LIBERAL KS 67901

| REFERENCÉ NO. | DESCRIPTION | YTTY | UM | UNIT PRICE | AMOUNT |
|-------------------|--------------------------------|------|----------|-------------------|----------|
| ICING ARE | EA - MID CONTINENT | | | | |
| | - CEMENT PRODUCTION CASING | | | | |
| 000-117 | MILEAGE CEMENTING ROUND TRIP | 140 | | 2.99 | 418.60 |
| | | • | UNT | | 133.95 |
| | DISCOUNT-(BID) | 32.0 | % | | 3.おおってい |
| 000-119 | MILEAGE FOR CREW | 140 | MI | 1.60 | 224.00 |
| | | 1 | UNT | | |
| | DISCOUNT-(BID) | 32.0 | % | | 71.68 |
| 07-013 | MULT STAGE CEMENTING-1ST STAGE | 4994 | FT | 1,820.00 | 1,820.00 |
| 001-016 | | 1 | TNU | | |
| | DISCOUNT-(BID) | 32.0 | % | | 582.40 |
| 07-161 | MULT STAGE CEMENTING-ADD STAGE | 1 | STG | 1,550.00 | 1,550.00 |
| | | 1. | UNT | | |
| | DISCOUNT-(BID) | 32.0 | % | | 496.00 |
| !6 | INSERT VALVE F. S 5 1/2" BRD | 1. | EA | 350.00 | 350.00 |
| 847.6318 | | | | | |
| | DISCOUNT-(BID) | 22.0 | % | | 77.00 |
| 7 | FILL-UP UNIT 5 1/2"-6 5/8" | 1 | EA | 69.00 | 69.00 |
| 815.19311 | | | | | |
| | DISCOUNT-(BID) | 22.0 | * | | 15.18 |
| 0 | CENTRALIZER-5-1/2 X 7-7/8 | 15 | EA | 60.00 | 900.00 |
| 806.60022 | | | ., | | 100 00 |
| | DISCOUNT-(BID) | 22.0 | * | | 24 5 5 C |
| 6 806 . 72730 | CLAMP-LIMIT-5 1/2-FRICT-W/DOGS | 1). | EA | 16.00 | 0 (18.00 |
| WWW. 1 / 20 / 675 | • | | | <u>:</u> , | |
| | **** CONTINUED ON NE | | , | c ₂ ," | |



TCE

JOHN GLENN

ACCT, NO.

462760

HALLIBURTON ENERGY SERVICES

DALLAS, TX 75395-1046

COMPANY TRUCK

20778

P.O. BOX 951046

| Corporate FII | N 73-0271280 |
|---------------|--------------|
| INVOICE NO. | DATE |
| | i |

A Division of Halliburton Company 185170 02/22/1997 WELL LEASE NO/PROJECT WELL/PROJECT LOCATION STATE CALDWELL C-4 SAME WICHITA KS SERVICE LOCATION CONTRACTOR JOB PURPOSE TICKET DATE LIBERAL MURFIN DRILLING SHOWN BELOW 02/22/1997 CUSTOMER P.O. NUMBER SHIPPED VIA **CUSTOMER AGENT** VENDOR NO. FILE NO.

ORIGINAL

DIRECT CORRESPONDENCE TO:

P O BOX 1598 LIBERAL KS 67901

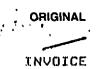
KAISER-FRANCIS OIL CO 515 EAST 3RD ELLINWOOD, KS 67526

| REFERENCE NO. | DESCRIPTION | QUANTITY | UM | UNIT PRICE | AMOUNT |
|-----------------|--|----------------|------------|-----------------------------|--------------------------------|
| • | DISCOUNT-(BID) | 22.0 | % | | 3.52- |
| 71 813.5632 | CEMENTER-TYPE P ES 5-1/2 8RD | 1. | EA | 2,450.00 | 2,450.00 * |
| | DISCOUNT-(BID) | 22.0 | % | | 539.00- |
| 75 813.1651: | PLUG SET - FREE FALL - 5-1/2 | 8 1 | EA | 840.00 | 840.00 * |
| _ | DISCOUNT-(BID) | 22.0 | % | | 184.80- |
| 320 806.7143 | BASKET-CMT-5 1/2 CSG X 17"OD- | - 1 | EA | 104.00 | 104.00 * |
| | DISCOUNT-(BID) | 22.0 | * | | 22.88- |
| 350 890.1080 | HALLIBURTON WELD-A 2 | 1. | EA | 16.75 | 16.75 ★ |
| | DISCOUNT-(BID) | 22.0 | % | | 3.68- |
| 504-282 | MIDCON-2 PREMIUM PLUS CEMENT DISCOUNT-(810) | 250 32.0 | | 17.06 | 4,265.00 * 1,364.80- |
| 504-050 | CEMENT - PREMIUM PLUS | | SK | 14.01 | 700.50 * |
| | DISCOUNT-(BID) | 32.0 | % | | 224.16- |
| 504-043 | CEMENT - PREMIUM DISCOUNT-(BID) | 100 32.0 | | 13.70 | 1,370.00 + 43 8.40 - |
| 509-406 | ANHYDROUS CALCIUM CHLORIDE DISCOUNT-(BID) | 6 32.0 | SK % | 40.75 | 244.50\\+ 78.24- |
| 508-095 | VERSASET DISCOUNT-(BID) | 71 32.0 | K 8 | 3.90 | 276.90 288.60- |
| | **** CONTINUE |) ON NEXT PAGE | E *** | · ↑ ↑ | |

TERMS: If Customer does not have an approved open account with Halliburton, all sums due are payable in cash at the time of performance of services or delivery of equipment, products or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice. Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum, in the event Halliburton employs an alterney for collection of any account, Customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.

2

J.





HALLIBURTON ENERGY SERVICES

A Division of Halliburton Company

P.O. BOX 951046 DALLAS , TX 75395-1046 Corporate FIN 73-0271280

| Corporate Pily | 173-0271200 |
|----------------|-------------|
| INVOICE NO. | DATE |
| | |

| Corporate i ii | . 70-027 1200 |
|----------------|---------------|
| INVOICE NO. | DATE |
| |] |

| | | | A Division of I | -lalliburton (| Company | | 185170 | 02/2 | 2/1997 |
|-----------|---------------------|-------------|-----------------|----------------|---------------|--------|----------------|-------|----------|
| 83 | WELL LEASE NO/PROJE | ं ्र | LANGUAGE MENT | REQUECTLO | CATION | STATE | OW | NER | |
| CALDWELL | _ C-4 | • | WICHITA | | | KS | SAME | | |
| SERV | ICE LOCATION | ∴ CONTR | ACTOR INCHES | 2 2 | JOB PL | JRPOSE | ાં રાયદવાને પા | TICKE | T DATE- |
| LIBERAL | | MURFIN DR | ILLINO | зном | N BELOW | | | 02/2 | 2/1997 |
| ACCT, NO. | CUSTOMER A | SENT: | WENDOR NO | 286 | CUSTOMER P.O. | NUMBER | SHIPPEO V | IA | FILE NO. |
| 462760 | JOHN GLENN | | | | | | COMPANY | RUCK | 20778 |

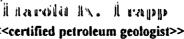
ORIGINAL

DIRECT CORRESPONDENCE TO:

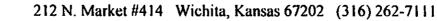
P 0 BOX 1598 LIBERAL KS 67901

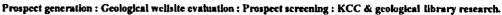
KAISER-FRANCIS OIL CO 515 EAST 3RD **ELLINWOOD**, KS 67526

| REFERENCE NO. | DESCRIPTION | QUANTITY | UM UNIT PRICE | AMOUNT |
|---------------|------------------------|-------------------|---------------|-----------|
| 508-002 | POTASSIUM CHLORIDE | 307 | L0 .27 | 82.89 |
| | DISCOUNT-(BID) | 32.0 | % | 26.52- |
| 507-775 | HALA0-322 | 56 | LB 7.00 | 392.00 |
| | DISCOUNT-(BID) | 32.0 | % | 125.44- |
| 508-291 | GILSONITE BULK | 500 | ** | |
| | DISCOUNT-(BID) | 32.0 | % | 64.00- |
| 018-315 | MUD FLUSH | | GAL .65 | · · |
| | DISCOUNT-(BID) | 32:0 | % | 104.00- |
| 500-207 | BULK SERVICE CHARGE | | CFT 1.35 | · · |
| | DISCOUNT-(BID) | 32.0 | % | 187.92- |
| 500-306 | MILEAGE CMTG MAT DEL C | | | |
| | DISCOUNT-(BID) | 32.0 | * | 469.51- |
| | JOB PURPOSE SUBTOTAL | | iell #4 | 18,669.63 |
| | INVOICE SUBTOTAL | | MT CHAPGE | 18,669.63 |
| | | MAN X MAN | or all | |
| | DISCOUNT-(BI | . /4 | - Julian | 5,499.68- |
| | INVOICE BID AMOUN | IEASE LEASE | NAME | 13,169.95 |
| | | | 7110 CALD | 491.57 |
| | | TY SALES TAX EXP. | BY | \$100.31 |
| , | *"SEWAKD CUL | MIT DALLD IAX | ,24 mm | 150.51 |
| | | | | |



<<certified petroleum geologist>>







WELLSITE **GEOLOGICAL REPORT** for KAISER FRANCIS OIL CO.

Caldwell "C" #4 **Section 34-20S-38W** Wichita County, Kansas 15-203-20124-00-00



15-203-20124-0600 ORIGINAL

TABLE OF CONTENTS

| | Page |
|--------------------------------|------|
| Summary and Conclusions | 1 |
| Summary of Zones of Interest | 1 |
| Well Resume | 3 |
| Formation Tops and Correlation | 4 |
| Daily Chronology | 4 |
| Deviation Surveys | 5 |
| Mud Record | 5 |
| Bit Record | 5 |



SUMMARY AND CONCLUSIONS

The Caldwell "C" #4 was drilled to a driller's total depth of 5000'. The well was drilled as a replacement for the Cameron Funk & Co. Caldwell "C" #2. Principal objectives were sandstones of the Morrowan in the Lower Pennsylvanian.

The well was spud on February 13, 1997 and a production string was set on February 22, 1997.

SUMMARY OF ZONES OF INTEREST

Samples were described in the Caldwell "C" #4 from 4650' to the total depth of 5000'. There were **two oil shows** observed in the samples. The zones containing the shows are considered zones of interest and are discussed below.

Morrow:

The Morrow Shale was encountered at a depth of 4754' (-1343'), one foot high to the comparison well (Cameron Funk & Co. Caldwell "C" #2, 100' NW of the CSE SW of section 34-20S-38W). In the comparison well, a 16' sand that was found 18' under the Morrow Shale helped produce over 270,000 barrels of oil (along with one other well). That sand in the Caldwell "C" #4 was 22' thick and was found only 10' below the top of the Morrow Shale at a depth of 4764'(-1353'), nine feet high to the Caldwell "C" #2.

The logs reveal 13' of net porosity, ranging from 18 to 21% porosity and 24 to 36 ohms.

A very slight show of oil was described in the upper part of the sand, probably only slight because of a severe lack of sandstone clusters. When a fair representation of the sand was observed in the trays, a fair to good show was described. The fair to good intercrystalline porosity with a faint yellow fluorescence and a faint, slow yellow cut and a slight odor was observed in a very fine-grained, friable, fair sorted, tan (stained) sandstone. There were many unconsolidated medium to coarse, sub-rounded quartz grains in the bottom of the tray.

DST #1 (4731-4850') evaluated the sandstone. The blow in the first open blew off the bottom of the bucket in 5 minutes. There was a strong blowback off the bottom of the bucket in 15 minutes in the initial shut-in period. The blow was exactly the same in the second flow period and the blowback in the second shut-in differed only in that it took 20 minutes to blow off the bottom of the bucket.

Recovery was 1265' of fluid, consisting of 744' of clean gassey oil (20% gas), 310' of mud cut gassey oil (10% gas, 10% mud), and 211' of mud cut gassey oil (10% gas, 30% mud). The oil was 32 degrees API gravity.

Flow pressures were 124-300 pounds and 346-484 pounds and the shut-in pressures were 861 to 854 pounds

Lower Morrow:

15-203-20124-00-00 A slight show of oil was described in a ten foot thick limestone encountered at a depth of 4870'. The show consisted of a dark brown stain, with no fluorescence, but with an instant dull yellow cut, and some black, dead oil. The show was found in vuggy porosity of a gray, dense, hard limestone.

CONCLUSIONS

The sand was 6' thicker and 9' higher than in the Caldwell "C" #2 and the DST revealed that after over 262,000 barrels of oil had been extracted from the reservoir in the last 20 years, the pressure has only been drawn down from 1125# to 850#. That's nothing! The reservoir is a big reservoir and needs another hole or two drilled into it.

A Production string was set on the Kaiser Francis Caldwell "C" #4 on February 22, 1997.

WELL RESUME

Operator: Kaiser Francis Oil Co. Well Name: Caldwell "C" #4

Location: 740' FSL and 1780' FWL Section 34-20S-38W

Field: Rupp Field County: Wichita State: Kansas Snud Date: 2/13/97

Spud Date: 2/13/97 **TD Date:** 2/21/97

Elevations: GR 3406' KB 3411'

Total Depth: 5000' (Driller) 5000' (Logger)

Contractor: Murfin Drilling Company, Inc. Rig #8

Tool Pusher: Louis (Ed) McKenna Wellsite Geologist: Harold R. Trapp Company Man: John Glenn/Drew Tyler

Mud Company: Mud-Co.
Mud Engineer: Tony Maestas

Type Drilling Mud: Gel & Chemicals Pump: National - K380 5 1/2 x 14

Hole Size: 12 1/4" to 306', 7 7/8" to total depth.

Casing: 8 5/8" set at 306'
Gas Detection: none

Cores: none

DST's: DST #1 (4731-4850') DST's by: Trilobite Testing

Electric Logs by: Atlas Wireline Services, Inc.

Logs Ran: Dual Induction, Compensated Neutron/Density

Bottom Hole Formation: Mississippian

61,30

15-203-20124-00-00

| Format | ion T | ops | a n d | Corr | elat | i o n | | |
|-----------------|---------|-----------|----------|---------------------------------------|-----------|---------|--|--|
| | Cameron | Funk & C | l Co. | Kaiser | Francis | Oil Co. | | |
| | Caldwe | II "C" #2 | | Caldwell "C" #4 | | | | |
| Kelly Bushing | 34 | 110 | | | | | | |
| | | | is | | | | | |
| | log | tops | | high/low | log tops | | | |
| | | | | to | | | | |
| Marmaton | 4390 | -980 | | 3 | 4388 | -977 | | |
| Cherokee Shale | 4524 | -1114 | | 1 | 4524 | -1113 | | |
| Morrow Shale | 4754 | -1344 | | · · · · · · · · · · · · · · · · · · · | 4754 | -1343 | | |
| Upper Mrw. Sst. | 4772 | -1362 | | 9 | 9 4764 -1 | | | |
| St. Genevieve | 4900 | -1490 | | 1 | 4900 | -1489 | | |
| Total Depth | 4950 | -1540 | | | 5000 | -1589 | | |

| | Daily Chronology | | | | | | | | | |
|---------|------------------|--------------------|--|--|--|--|--|--|--|--|
| Date | 7:00am Depth | 24 Hour Footage | Activity Past 24 Hours | | | | | | | |
| 2/13/97 | | | Dig ditches and rig up yard | | | | | | | |
| 2/14/97 | 306 | 306 | Move and rig up, mix mud, drill rat hole, drill surface hole, condition hole for surface casing, set 297' of 8 5/8" casing @ 306', cement, wait on cement | | | | | | | |
| 2/15/97 | 2270 | 1964 | Wait on cement, drill plug and cement, check rig, drill, clean pits | | | | | | | |
| 2/16/97 | 3070 | 800 | Service rig, drill, lost returns @ 2827 (approx. 150 bbl), trip for bit, change bit out, drill | | | | | | | |
| 2/17/97 | 3505 | 435 | Service rig, drill, replace liner and head, jet and clean pits, lost circulation @ 3294' (approx. 80 bbl), tite connection @ 4366' | | | | | | | |
| 2/18/97 | 4030 | 525 | Service rig, drill, clean suction pit, displace mud, completed displacement at 3798' | | | | | | | |
| 2/19/97 | 4475 | 445 | Service rig, drill, check pump valves, replace head and rod, jet #1 | | | | | | | |
| 2/20/97 | 4775 | 300 | Service rig, drill, circulate for samplles, short trip, condition hole, drill | | | | | | | |
| 2/21/97 | 4860 | 85 | Service rig, drill, circulate for samples, trip out for DST #1, strap pipe pipe, pick up test tool, run in hole and run DST #1, out of hole with tool, back in hole, condition hole, drill | | | | | | | |
| 2/22/97 | 5000 | 140 | Drill, circulate for samples, condition hole for logs, run logs, go back in hole to condition to run casing | | | | | | | |
| 2/23/97 | 5000 | | Run 5 1/2" production string | | | | | | | |

| | Mud Record | | | | | | | | | | | | | | | |
|---------|------------|--------|-----------|--------------|------|-----------|------|-----|----------|-----|----------|-----|-------|-----|------------|---------------------------------------|
| Date | Depth | Weight | Viscosity | Wtr. Loss | Cake | Cl (mg/l) | pН | Sol | Wtr. | Oil | PV | YP | Geis | LCM | Cost | Cumulative Cost |
| 2/14/97 | 391 | 8.4 | 27 | - | - | 100 | 1.0 | 0.1 | <u> </u> | _ | <u> </u> | _ | | | \$259,50 | \$259.50 |
| 2/16/97 | 3125 | 9.8 | 35 | - | • | 105,000 | - | 4.4 | 95.6 | _ | 7 | 12 | 6/12 | 2 | \$2,065.94 | \$2,325.44 |
| 2/17/97 | 3561 | 9.8 . | 32 | nc | nc | 70,000 | 7.0 | 6.5 | | - 0 | 3 | . 6 | 3/8 | 1 : | \$1,115.35 | |
| 2/18/97 | 3932 | 8.8 | 40 | 12.0 | 1 | 5,000 ; | 10.5 | 3.5 | 96.5 | | 10 | 14 | 9/17 | 1 | \$637.40 | · · · · · · · · · · · · · · · · · · · |
| 2/19/97 | 4522 | 9.3 | 40 | 15.2 | 1 | 6,000 | 10.0 | 6.8 | | | 11 | | | | \$790.44 | |
| 2/20/97 | 4850 | 9.3 | 46 | 9.6 | 1 | 5,000 | 10.0 | 6.9 | 93.1 | 0 | | | | | \$1,289.24 | |
| 2/21/97 | 4947 | 9.3 | 47 | 9.6 | i | . 6,500 | | | 93.3 | 0: | | | 12/25 | | \$0.00 | |

| | Bit Record | | | | | | | | | |
|-----|------------|------|----------|----------|-----------|---------|---------|--|--|--|
| # | Size | Mfg. | Туре | Depth In | Depth Out | Footage | Hours | | | |
| 1 | 12 1/4" | нтс | ЛЅ | ; 0 | 306 | 306 | 3 1/2 | | | |
| 2 7 | .; 7 7/8" | нтс | ATJ 05 | 306 | 2933 | 2627 | 31 3/4 | | | |
| 3 | 7 7/8" | HTC | : GTA_30 | 2933 | 5000 | 2067 | 100 3/4 | | | |

| Deviation Surveys | | | | | | | | |
|-------------------|---------|---------|---------|--|--|--|--|--|
| Footage | Degrees | Footage | Degrees | | | | | |
| 2933 | 3/4 | 5000 | 1 3/4 | | | | | |
| 4850 | 3/4 | : | : | | | | | |

15-2012-2012-00-021