

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

ORIGINAL

API NO. 15- 175-21259-0000

County Seward

133' SW_C SW_NE Sec. 13 Twp. 33S Rge. 33 X E W

2010 Feet from S (circle one) Line of Section

2110 Feet from E/W (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:
NE, SE, NW or SW (circle one)

Lease Name OXY-WATSON Well # 1-13

Field Name Unknown

Producing Formation Miss/St. Louis

Elevation: Ground 2703 KB 2714

Total Depth 6225 PBDT 6173

Amount of Surface Pipe Set and Cemented at 1542 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.

Drilling Fluid Management Plan BLT/ OK 10-28-92 OP
(Data must be collected from the Reserve Pit)

Chloride content _____ ppm Fluid volume _____ bbls

Dewatering method used _____

Location of fluid disposal if hauled offsite: _____

Operator Name _____

Lease Name _____

Quarter Sec. Twp. S Rng. E/W

County _____

Operator: Licence # 30606

Name: Murfin Drilling Company, Inc.

Address 250 North Water, Suite 300

City/State/Zip Wichita, Ks. 67202

Purchaser: unknown

Operator Contact Person: Larry Jack

Phone (316) 267-3241

Contractor: Name: Murfin Drilling Company, Inc.

License: 30606

Wellsite Geologist: Paul Godowic

Designate Type of Completion

X New Well Re-Entry Workover

X Oil SWD SIOW Temp. Abd.

X Gas ENHR SIGW

Dry Other (Core, WSW, Expl., Cathodic, etc)

If Workover/Re-Entry: old well info as follows:

Operator: _____

Well Name: _____

Comp. Date _____ Old Total Depth _____

Deepening _____ Re-perf. _____ Conv. to Inj/SWD

Plug Back _____ PBDT

Commingled _____ Docket No. _____

Dual Completion _____ Docket No. _____

Other (SWD or Inj?) _____ Docket No. _____

7-30-92 8-18-92 9/1/92

Spud Date Date Reached TD Completion Date

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OCT 20 1993

FROM CONFIDENTIAL

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 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 geologist well report 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.

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

Signature By: Larry Jack
Title Production Mgr Date 9/17/92

Subscribed and sworn to before me this 17 day of September, 1992.

Notary Public: Kathleen Redington
Date Commission Expires 2/6/94
STATE OF KANSAS
My Appl. Exp. 2-6-94

K.C.C. OFFICE USE ONLY
F Letter of Confidentiality Attached
C Wireline Log Received
C Geologist Report Received
Distribution
KCC SWD/Rep NGPA
KGS Plug Other (Specify)

Operator Name Murfin Drilling Company, Inc. Lease Name OXY-WATSON Well # 1-13

Sec. 13 Twp. 33S Rge. 33 East West
 County Seward

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 Yes No
 (Attach Additional Sheets.)

Samples Sent to Geological Survey Yes No

Cores Taken Yes No

Electric Log Run Yes No
 (Submit Copy.)

List All E.Logs Run:
 Dual Induction Laterolog
 Spectral Density Dual Spaced Neutron II
 Microlog

Log Formation (Top), Depth and Datum Sample

| Name | Top | Datum |
|------|-----|-------|
|------|-----|-------|

See Attached Supplement to ACO-1 for DST & Log info

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" | 24# | 1542 | light | 510 | 2% cc |
| | | | | | Premium | 150 | 2% cc |
| Production | 7 7/8 | 4 1/2 | 10.5 | 6216 | 50/50 Poz | 275 | 10% salt, 6% Halad 322 |

ADDITIONAL CEMENTING/SQUEEZE RECORD

| Purpose: | Depth Top Bottom | Type of Cement | #Sacks Used | Type and Percent Additives |
|---|------------------|----------------|-------------|----------------------------|
| <input type="checkbox"/> Perforate | | | | |
| <input type="checkbox"/> Protect Casing | | | | |
| <input type="checkbox"/> Plug Back TD | | | | |
| <input type="checkbox"/> Plug Off Zone | | | | |

| Shots Per Foot | PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used) | Depth |
|----------------|--|--|---------|
| 4 | 6124-30' | 500 gal. 15% HCS & 1000 gal. 28% HCL | 6124-30 |

TUBING RECORD Size 2 3/8 Set At 6150 Packer At _____ Liner Run Yes No

Date of First, Resumed Production, SWD. or Inj. Shut in _____ Producing Method Flowing Pumping Gas Lift Other (Explain) _____

| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|-----------------------------------|-----------|---------|-------------|---------------|---------|
| | -- | OF 8634 | -- | -- | -- |

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

METHOD OF COMPLETION Open Hole Perf. Dually Comp. Commingled Other (Specify) _____

Production Interval as above

ORIGINAL

Supplement to ACO-1

Operator: Murfin Drilling Company, Inc.

Well: OXY-WATSON #1-13
133' SW C SW NE
2010' FNL 2110' FEL
Section 13-33S-33W
Seward County, Ks.

API#: 15-175-21259

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DST INFORMATION

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DST #1: 4325-4350
30-60-60-90
Rec: 651' total fluid- no show O or G
31' mud
372' MW
248' W
55,000 chlorides, .1 RW @ 93 deg
HP: 2104-2050, FP: 64-149/202-320, SIP: 1228-1228

DST #2: 4562-4589
30-30-30-30
Rec: 240' MW
55,000 chlorides, .1 @ 93 deg
HP: 2202-2137, FP: 42-96/106-138, SIP: 1400-1400

DST #3: 4930-4957
30-45-90-120
IF: strong blow off the bottom of the bucket in 1 min - NGTS
FF: GTS - 40 min in second flow period
Gauged as follows - 1/4" choke
40 min - 3710 cf
45 min - 5320 cf
50 min - 6330 cf
55 min - 7320 cf
60 min - 7510 cf
65 min - 7510 cf
70 min - 7880 cf
75 min - 7510 cf
80 min - 7510 cf
85 min - 7510 cf
90 min - 7510 cf
REC: 4689' Gas in Pipe
217' Gas & Oil Cut Mud (30% G, 25% O, 45% M)
HP: 2454-2366, SIP: 1562-1616, FP: 42-53/64-96, BHT: 120 deg

DST #4: 4970-4990 (Marmaton)
30-45-60-90
IF: wk blow 3"
FF: wk blow 1-1/2"
REC: 496' Muddy Water - no show
HP: 2475-2421, FP: 42-106/149-245, SIP: 1595-1595, BHT: 121 deg

DST #5: 5602-5670 (Lower Morrow)- taking
7:00 am IF: wk blow increasing to 3"
8:30 am FF: wk blow increasing to 5"
Will start out with test tool @ 10:00 am
30-45-60-90
IF: wk blow increasing to 3" in 15 min and decreasing
FF: wk blow slightly increasing to 5" @ end of period
REC: 62' Mud
HP: 2836-2716, SIP: 96-352, FP: 64-64/64-64, BHT: 124 deg
Sampler: 4000 ml mud, 100 #, Chlorides/Pit 2000 ppm

DST #6: 5707-5747 - Chester
30-45-90-120
IF: wk blow increas.to strong off bottom of bucket in 3 min.
FF: wk blow increas.to strong off bottom of bucket in 1 min.
GTS-50 min into FF period
1/4 " choke
50 min - 3.37 mcf
55 min - 5.05 mcf
60 min - 7.71 mcf
65 min - 8.56 mcf
70 min - 8.56 mcf
75 min - 9.20 mcf
80 min - 9.20 mcf
85 min - 9.20 mcf
90 min - 9.20 mcf
HP: 2858-2863, SIP: 1703-1768, FP: 53-74/85-85, BHT: 125 deg
Sampler - 1000 ml Gas = 25 cf, 3000 ml Mud, 1000 psi

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SEP 18 1992

CONSERVATION DIVISION
WICHITA, KANSAS

ORIGINAL

Supplement to ACO -1

PAGE TWO

Operator: Murfin Drilling Company, Inc.

Well: OXY-WATSON #1-13
133' SW C SW NE
2010' FNL 2110' FEL
Section 13-33S-33W
Seward County, Ks.

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DST INFORMATION - cont.

DST #7: 6055-6105 (St. Louis) - taking

30-60-60-120

IF: Strong blow, GTS 5 min - 863 mcf 1-1/2" choke

10 min - 1063 mcf

15 min - 1274 mcf

20 min - 1626 mcf

25 min - 1694 mcf

30 min - 1760 mcf

FF: GTS immediately 1-1/2" choke

5 min - 1420 mcf

10 min - 1760 mcf

15 min - 1824 mcf through

60 min - 1824 mcf

REC: 65' GM (10% G, 90% M)

HP: 3131-2869, SIP: 1941-1941, FP: 363-416/373-427, BHT 125 deg

Sampler: 4000 ml Gas, 1700 psi, 145 cf gas

SEP 17

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LOG INFORMATION: KB 2714'

| | |
|-----------------|------|
| B/SC | 1540 |
| WELLINGTON | 2049 |
| HERINGTON | 2478 |
| KRIDER | 2537 |
| WINFIELD | 2600 |
| COUNCIL GROVE | 2818 |
| B/HHEBNER SH | 4138 |
| TORONTO | 4152 |
| LANSING | 4280 |
| MARMATON | 4935 |
| CHEROKEE SH | 5138 |
| ATOKA LIMESTONE | 5327 |
| MORROW | 5486 |
| CHESTER | 5674 |
| CHESTER SD | 5855 |
| ST. GENEVIEVE | 5967 |
| ST. LOUIS | 6047 |
| SPERGEN | 6210 |
| TD - Log | 6216 |
| TD - Driller | 6225 |

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SEP 18 1992
CONSERVATION DIVISION
WICHITA, KANSAS

HALLIBURTON SERVICES

P.O. BOX 951046
DALLAS, TX 75395-1046

INVOICE

A Halliburton Company

| | |
|-------------|------------|
| INVOICE NO. | DATE |
| 250662 | 07/31/1992 |

| | | | | | |
|---------------------------|----------------------|-----------------------|----------------------|---------------|------------------|
| WELL LEASE NO./PLANT NAME | | WELL/PLANT LOCATION | | STATE | WELL/PLANT OWNER |
| DRY-WATSON 1-13 | | SEWARD | | KS | SAME |
| SERVICE LOCATION | CONTRACTOR | JOB PURPOSE | | TICKET DATE | |
| LIBERAL | MURFIN #22 <i>ml</i> | CEMENT SURFACE CASING | | 07/31/1992 | |
| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O. NUMBER | SHIPPED VIA | FILE NO. |
| 414500 | TOM HESKETT | | | COMPANY TRUCK | 37764 |

MURFIN DRLO CO
BOX 661
COLBY, KS 67701

J. chg ops

DIRECT CORRESPONDENCE TO:
FIRST OKLAHOMA TOWER
210 WEST PARK AVENUE
SUITE 2050
OKLAHOMA CITY, OK 73102-5601

SEP 17

CONFIDENTIAL

| PRICE REF. NO. | DESCRIPTION | QUANTITY | U/M | UNIT PRICE | AMOUNT |
|--|--------------------------------------|----------|-----|------------|-----------|
| 000-117 | PRICING AREA - EASTERN AREA1 MILEAGE | 10 | MI | 2.60 | 26.00 |
| 001-016 | CEMENTING CASING | 1541 | FT | 1,020.00 | 1,020.00 |
| 030-018 | CEMENTING PLUG 5W, PLASTIC TOP | 1 | UNT | | |
| 12A | GUIDE SHOE - 8 5/8" BRD THD. | 1 | EA | 216.00 | 216.00 |
| 825.217 | | | | | |
| 24A | INSERT FLOAT VALVE - 8 5/8" BRD | 1 | EA | 171.00 | 171.00 |
| 815.19502 | | | | | |
| 27 | FILL-UP UNIT 7" - 8 5/8" | 1 | EA | 30.00 | 30.00 |
| 815.19415 | | | | | |
| 40 | CENTRALIZER 8-5/8" X 12.25" | 1 | EA | 62.00 | 164.00 |
| 807.93059 | | | | | |
| 350 | HALLIBURTON WELD-A | 1 | LB | 11.50 | 11.50 |
| 890.10802 | | | | | |
| 504-050 | PREMIUM PLUS CEMENT | 150 | SK | 8.19 | 1,228.50 |
| 504-120 | HALL. LIGHT - PREMIUM PLUS | 510 | SK | 7.40 | 3,774.00 |
| 507-210 | FLOCELE | 128 | LB | 1.30 | 166.40 |
| 509-406 | ANHYDROUS CALCIUM CHLORIDE | 12 | SK | 26.50 | 318.00 |
| 500-207 | BULK SERVICE CHARGE | 693 | CFT | 1.15 | 796.95 |
| 500-306 | MILEAGE CMTG MAT DEL OR RETURN | 466.650 | MI | .80 | 373.32 |
| 03600 022 W 9611 4975.26 Cement SC | | | | | |
| INVOICE SUBTOTAL | | | | | 8,447.67 |
| DISCOUNT-(BID) | | | | | 3,716.96- |
| INVOICE BID AMOUNT | | | | | 4,730.71 |
| *-KANSAS STATE SALES TAX | | | | | 311.11 |
| *-SEWARD COUNTY SALES TAX | | | | | 31.14 |
| INVOICE TOTAL - PLEASE PAY THIS AMOUNT | | | | | 5,783.92 |

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SEP 18 1992
CONSERVATION DIVISION
Kansas

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.

ORIGINAL

P.O. BOX 951046
DALLAS, TX 75395-1046



INVOICE

A Halliburton Company

| | |
|-------------|------------|
| INVOICE NO. | DATE |
| 250756 | 08/19/1992 |

| | | | | | |
|---------------------------|----------------|---------------------|--------------------------|---------------|------------------|
| WELL LEASE NO./PLANT NAME | | WELL/PLANT LOCATION | | STATE | WELL/PLANT OWNER |
| OXY-WATSON 1-13 | | SEWARD | | KS | SAME |
| SERVICE LOCATION | | CONTRACTOR | JOB PURPOSE | | TICKET DATE |
| LIBERAL | | MURFIN #22 | CEMENT PRODUCTION CASING | | 08/19/1992 |
| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O. NUMBER | SHIPPED VIA | FILE # |
| 614500 | ED LOFLAND | | | COMPANY TRUCK | 386 |

MURFIN DRUG CO
BOX 661
COLBY, KS 67705

DIRECT CORRESPONDENCE TO:
FIRST OKLAHOMA TOWER
210 WEST PARK AVENUE
SUITE 2050
OKLAHOMA CITY, OK 73102-5601

USED FOR *LEAD*
APPROVED *PC M*

SEP 17

| PRICE REF. NO. | DESCRIPTION | QUANTITY | U/M | UNIT PRICE | AMOUNT |
|----------------------|---|----------|--------|------------|----------|
| 000-117 | PRICING AREA - EASTERN AREA1 MILEAGE | 10 | MI | 2.60 | 26.00 |
| 001-016 | CEMENTING CASING | 6216 | FT | 1,605.00 | 1,605.00 |
| 030-016 | CEMENTING PLUG SW ALUM TOP | 4 | 1/2 IN | 35.00 | 35.00 |
| 019-240 | CASING SWIVEL W/WALL CLEANERS | 1 | EA | 125.00 | 125.00 |
| 001-018 | CEMENTING CASING - ADD HRS | 3 | HR | 180.00 | 540.00 |
| 12A | GUIDE SHOE - 4 1/2" BRD THD. | 1 | EA | 95.00 | 95.00 |
| 825.201 24A | INSERT FLOAT VALVE - 4 1/2" BRD | 1 | EA | 73.00 | 73.00 |
| 815.19101 27 | FILL-UP UNIT 4 1/2"-5" | 1 | EA | 27.50 | 27.50 |
| 815.19111 40 | CENTRALIZER 4-1/2" X 7 7/8" | 8 | EA | 43.00 | 344.00 |
| 807.93004 60 | ROTO WALL CLEANER 2 1/8" SPIKE | 16 | EA | 22.00 | 352.00 |
| 807.0007 66 | FASGRIP LIMIT CLAMP 4 1/2" | 1 | EA | 9.60 | 9.60 |
| 807.64021 350 | HALLIBURTON WELD-A | 1 | LB | 11.50 | 11.50 |
| 890.10802 018-317 | SUPER FLUSH | 10 | SK | 98.00 | 980.00 |
| 504-043 | PREMIUM CEMENT | 138 | SK | 7.94 | 1,095.72 |
| 506-105 | POZMIX A | 10138 | LB | .06 | 608.28 |
| 506-121 | HALLIBURTON-GEL 2% | 5 | LB | .00 | N/C |
| 507-775 | HALAD-322 | 173 | LB | .30 | 1,089.90 |
| 509-968 | SALT | 1317 | LB | .10 | 131.70 |
| 500-207 | BULK SERVICE CHARGE | 294 | CFT | 1.15 | 338.10 |
| 500-306 | MILEAGE CMTG MAT DEL OR RETURN | 187.890 | TMI | .80 | 150.31 |

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

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Wichita, Kansas

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P.O. BOX 951046
DALLAS, TX 75395-1046

HALLIBURTON SERVICES

ORIGINAL

OFFICE

A Halliburton Company

| | |
|-------------|-----------|
| INVOICE NO. | DATE |
| 250756 | 08/19/199 |

| | | | | | | |
|---------------------------|----------------|---------------------|----------------------|--------------------------|------------------|-------------|
| WELL LEASE NO./PLANT NAME | | WELL/PLANT LOCATION | | STATE | WELL/PLANT OWNER | |
| JXY-WATSON 1-13 | | SEWARD | | KS | SAME | |
| SERVICE LOCATION | | CONTRACTOR | | JOB PURPOSE | | TICKET DATE |
| LIBERAL | | MURFIN #22 | | CEMENT PRODUCTION CASINO | | 08/19/199 |
| ACCT. NO. | CUSTOMER AGENT | VENDOR NO. | CUSTOMER P.O. NUMBER | | SHIPPED VIA | FILE N |
| 614500 | ED LOFLAND | | | | COMPANY TRUCK | 3861 |

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SUITE 2050
OKLAHOMA CITY, OK 73102-5601

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| PRICE REF. NO. | DESCRIPTION | QUANTITY | U/M | UNIT PRICE | AMOUNT |
|----------------|--|----------|-----|------------|----------|
| | INVOICE SUBTOTAL | | | | 7,637.61 |
| | DISCOUNT-(BID) | | | | 1,145.60 |
| | INVOICE BID AMOUNT | | | | 6,492.01 |
| | *--KANSAS STATE SALES TAX | | | | 176.18 |
| | *--SEWARD COUNTY SALES TAX | | | | 35.94 |
| | INVOICE TOTAL - PLEASE PAY THIS AMOUNT | | | | 6,770.13 |

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Wichita, Kansas

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STATE OF KANSAS - CORPORATION COMMISSION
MULTIPOINT BACK PRESSURE TEST

FORM CG-1

TYPE TEST: Initial Annual Special TEST DATE: 9-8-92

COMPANY: MURFIN DRILLING CO. LEASE: OXY WATSON WELL NO.: 1-13

COUNTY: SEWARD LOCATION: SW NE SECTION: 13 TWP: 33S RNG: 33W ACRES:

FIELD: MISSISSIPPI PIPELINE CONNECTION: NONE

COMPLETION DATE: 9-2-92 PLUG BACK TOTAL DEPTH: 6173 PACKER SET AT: 6059

CASING SIZE: 4 1/2 WT. 10.5 ID. 4.052 SET AT: 6215 PERF. 6124 TO: 6127

TUBING SIZE: 2 3/8 WT. 4.7 ID. 1.995 SET AT: 6059 PERF. TO:

TYPE COMPLETION (Describe): SINGLE GAS TYPE FLUID PRODUCTION: NONE RELEASED

PRODUCING THRU TUBING: RESERVOIR TEMPERATURE: 146 @ 6125.5 BAR PRESS - P: 14.4 Paia

OAS GRAVITY - G: .675 % CARBON DIOXIDE: % NITROGEN: API GRAVITY OF LIQUID: FROM CONFIDENTIAL

VERTICAL DEPTH (H): 6125.5 TYPE METER CONN.: Prover SEP 17 (METER RUN) (PROVER) SIZE: 2"

REMARKS: PW FROM AMERADA BOTTOM HOLE INSTRUMENT. CONFIDENTIAL

OBSERVED DATA

DURATION OF SHUT-IN _____ HR.

| RATE No. | ORIFICE SIZE In. | (METER) (PROVER) PRESSURE psig | DIFF. (h _w) (h _d) | FLOWING TEMP. t | WELL-HEAD TEMP. t | CASING WELLHEAD PRESS. | | TUBING WELLHEAD PRESS. | | DURATION HOURS | LIQUID PROD. Bbls. |
|----------|------------------|--------------------------------|---|-----------------|-------------------|------------------------|--|------------------------|--|----------------|--------------------|
| | | | | | | psig | (P _w)(P _i)(P _o) psia | psig | (P _w)(P _i)(P _c) psia | | |
| SHUT IN | | | | | | | | | | | |
| 1 | 1/2 | 98 | | 72 | 74 | | | 1648.0 | 1662.4 | 132 | 0.0 |
| 2 | 5/8 | 148 | | 70 | 74 | | | 1619.0 | 1633.4 | 1.0 | 0.0 |
| 3 | 3/4 | 246 | | 64 | 74 | | | 1557.0 | 1571.4 | 1.0 | 0.0 |
| 4 | 3/4 | 328 | | 64 | 74 | | | 1341.0 | 1355.4 | 1.0 | 0.0 |
| 5 | | | | | | | | 1106.0 | 1120.4 | 1.0 | 0.0 |

RATE OF FLOW CALCULATIONS

| RATE NO. | COEFFICIENT (F _w)(F _p) Mcfd | (METER) (PROVER) PRESSURE psia | EXTENSION $\sqrt{P_m \times h_w}$ | GRAVITY FACTOR F _g | FLOWING TEMP FACTOR F _t | DEVIATION FACTOR F _{pv} | RATE OF FLOW Q Mcfd | GOR | G _m |
|----------|---|--------------------------------|-----------------------------------|-------------------------------|------------------------------------|----------------------------------|---------------------|-----|----------------|
| 1 | 4.388 | 112.4 | | 1.217 | 0.989 | 1.011 | 600.2 | 0 | 0.675 |
| 2 | 6.638 | 162.4 | | 1.217 | 0.991 | 1.017 | 1321.3 | 0 | 0.675 |
| 3 | 9.694 | 260.4 | | 1.217 | 0.996 | 1.028 | 3146.9 | 0 | 0.675 |
| 4 | 9.694 | 342.4 | | 1.217 | 0.996 | 1.038 | 4175.6 | 0 | 0.675 |
| 5 | | | | | | | | | |

PRESSURE CALCULATIONS

| RATE NO. | P _i psia | P _c psia | P _w psia | (P _o) ² THOUSANDS | (P _w) ² THOUSANDS | PLOTING POINTS | | Q Mcfd | % SHUT-IN $100 \frac{P_w - P_a}{P_c - P_a}$ |
|----------|---------------------|---------------------|---------------------|--|--|---|--|--------|---|
| | | | | | | (P _c) ² - (P _w) ² THOUSANDS | | | |
| 1 | 1633.4 | 1993.9 | 1965.8 | 3975.6 | 3864.4 | 111.3 | | 600.2 | 98.6 |
| 2 | 1571.4 | 1993.9 | 1909.8 | 3975.6 | 3647.3 | 328.3 | | 1321.3 | 95.8 |
| 3 | 1355.4 | 1993.9 | 1733.0 | 3975.6 | 3003.3 | 972.3 | | 3146.9 | 86.8 |
| 4 | 1120.4 | 1993.9 | 1569.2 | 3975.6 | 2462.4 | 1513.2 | | 4175.6 | 78.5 |
| 5 | | | | | | | | | |

INDICATED WELLHEAD OPEN FLOW 8634 Mcfd @ 14.65 psia "n" = 0.752

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct.

Executed this the 8TH day of SEPTEMBER, 1992

Witness (if any)
[Signature]
For Commission

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CONSERVATION DIVISION
WICHITA, KANSAS
PRECISION WELL TESTING
For Company
STEVE HELM
Checked by

ORIGINAL



PAUL F. GODOWIC

CONSULTING GEOLOGIST

MEMBER AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

5500 MEADOWGREEN DRIVE - AMARILLO, TEXAS 79110 - BUS. (806)353-2021 - RES. (806)355-0165

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August 20, 1992

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GEOLOGICAL WELL REPORT

FROM CONFIDENTIAL

Murfin Drilling Company, Inc.
No. 1-13 Oxy-Watson
2010' FNL & 2110' FEL
of Section 13-T33S-R33W,
Seward County, Kansas

WELL FILE

Elevations: 2714'KB(Datum Used)
2712'DF
2703'GL

Contractor: Murfin Drilling Company, Inc., Rig-22

Rotary Spud Date: July 30, 1992

Drilling completed: August 18, 1992

Total Drilling Time: 20 Days

Total Depth: 6225' (Driller)
6216' (Electrical Survey)

Hole Size: Conductor Hole
12 1/4" to 1550'
7 7/8" to T.D.

Casing: 20" Conductor set at 63'
8 5/8" set at 1542'
4 1/2" set at 6216'

Gas Detector: MBC Leasing Service, Meade, Kansas,
unmanned unit from 3250' to T.D.

Electrical Surveys: Halliburton Logging Services, Inc.,
Woodward, Oklahoma, Dennis Kranz, Engineer,
Dual Induction Laterolog with Gamma Ray
from 6214' to 1540' with Gamma Ray to
50' (also detailed from 6214' to 50'),
a Spectral Density Dual Spaced Neutron II
Log from 6213' to 1540', a Microlog from
6212' to 1540', and a Compensated Sonic
Log from 6182' to 1540'.

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REGISTRATION DIVISION
Wichita, Kansas

Murfin Drilling Company, Inc.
Suite 300
250 North Water Street
Wichita, Kansas 67202

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Gentlemen:

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FROM CONFIDENTIAL

I have witnessed the drilling and examined samples on the No. 1-13 Oxy-Watson from 3000' to a total depth of 6225' in Spergen(Mississippian) rocks. A sample log with lithological descriptions, two foot drilling time, gas detector readings and other pertinent data was plotted on a standard 5"=100' scale from 3000' to T.D.

Samples on this test are being sent to the Kansas Geological Society Sample Library, 4150 Monroe Street, Wichita, Kansas 67209.

Geological tops corrected to the electrical survey and correlated with the Harris Oil & Gas - No. 124 Boyer Trust (4270' FSL & 3280' FEL of Section 24-T33S-R33W, Seward County, Kansas) a St. Louis test completed as a Chester gas well, located about 3/4 of a mile south, are as follows:

| Formation | Murfin No. 1-13 Oxy-Watson | Harris No. 1-24 Boyer Trust |
|-----------------------|-------------------------------|--------------------------------|
| (Elevation-Datum) | 2714' KB | 2814' KB |
| Base of Stone Corral* | 1540 +1174 | |
| Wellington | 2049 +665 | 2145 +669 |
| Herington | 2478 +236 | 2590 +224 |
| Krider | 2537 +177 | 2650 +164 |
| Winfield | 2600 +114 | 2708 +106 |
| Council Grove | 2818 -104 | 2928 -114 |
| Base of Heebner Shale | 4138 -1424 | 4264 -1450 |
| Toronto | 4152 -1438 | 4291 -1477 |
| Lansing | 4280 -1566 | 4406 -1592 |
| Marmaton | 4935 -2221 | 5060 -2246 |
| Cherokee Shale | 5138 -2424 | 5252 -2438 |
| Atoka Limestone | 5327 -2613 | 5446 -2672 |
| Morrow | 5486 -2772 | 6507 -2793 |
| Chester | 5674 -2960 | 5796 -2982 |
| Chester Sand Zone | 5855 -3141 | 5972 -3158 |
| Ste. Genevieve | 5967 -3253 | 6094 -3280 |
| St. Louis | 6047 -3333 | 6174 -3360 |
| Spergen* | 6210 -3496 | NDE |
| T.D. - E.S. | 6216 -3502 | 6300 -3486 |
| T.D. - Driller | 6225 -3511 | 6300 -3486 |

*Sample Tops

Zones of interest are discussed below:

Lansing (4280) Samples indicate a gray-brown to very light gray, finely crystalline to very finely sucrosic, chalky, fossiliferous limestone with fine size vugs and a trace of oolitic porosity from a drilling break at 4335' where eight feet were drilled at 1 1/4 min/ft (compared to 2 1/2 min/ft above). Oil stain, yellow fluorescence and fair to good

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cut were noted. Sample quality was fair to good and only traces of a show were found. A nine unit gas reading (an increase of four units over a five unit background) was recorded at 4335'. Samples were circulated at 4350'.

Electric logs show nine feet of 19% density porosity at 4330'.

Drill stem test No. 1 covering this zone yielded only drilling mud and water with no show of gas or oil. This test was conclusive and no further evaluation is necessary.

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Samples also indicate a gray-tan, finely crystalline to very finely sucrosic limestone with oolitic and vuggy porosity at 4569'. Some yellow mineral fluorescence with no stain or no cut were noted in the fair quality samples. A 16 unit gas reading (an increase of six units over a ten unit background) was plotted over this zone. A good ten foot drilling break of less than 1/2 min/ft (compared to 2 1/2 min/ft above) took place at 4569' and samples were circulated at 4589'.

Electric logs show eight feet of 26% density porosity at 4564'.

Drill stem test No. 2 over this porosity yielded 250' of muddy water with no show of gas or oil. This test was conclusive.

Marmaton (4935) Samples indicate a buff to light brown, finely crystalline to finely sucrosic, soft limestone with oolitic and vuggy porosity with yellow-white fluorescence, light oil stain, distinct oil odor, and with good cut at 4943'. Sample quality was fair and this was a 5% show. A strong 110 unit gas reading (an increase of 103 units over a seven unit background) was recorded. The chromatograph recorded 160 C-1, 100 C-2, 8 C-3, 10 C-4, and 3 C-5. A four foot drilling break of 2 min/ft (compared to 3 1/2 to 4 1/2 min/ft above) took place at 4943'. One foot at 4945' was drilled at one min/ft and samples were circulated at 4957'.

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Electric logs show three feet of 18% density porosity with a slight gas effect at 4936'.

Drill stem test No. 3 over this show had a gas flow of 7510 cf/d and yielded 217' of highly oil and gas cut mud. This zone is thin but may be tested thru casing after the more promising formations have been thoroughly evaluated.

Samples also indicate a gray to gray-brown, finely crystalline to very finely sucrosic, oolitic limestone at 4971'. Oolitic porosity was noted. Weak faded mineral fluorescence with no stain and no cut were present in the fair to good quality samples. A 92 unit gas detector reading (63 units over a 29 unit background) was recorded. An excellent 18' drilling break of better than 1/2 min/ft (compared to 4 to 5 min/ft above) took place at 4971' and samples were circulated at 4990'. Electric logs show 19' of 24% density porosity at 4963'. DST No. 4 over this zone yielded 496' of muddy water with no shows of gas or oil. This test was conclusive.

Cherokee (5138) Samples indicate a tan-gray, finely crystalline to chalky limestone with some vugs, pale white fluorescence, some stain and with fair cut at 5317'. A 60 unit gas reading (an increase of 45 units over a 15 unit background) was recorded. A minor increase in the drill rate took place at 5317' where two feet were cut at 3 min/ft (compared to 4 1/2 min/ft above). Electric logs show two feet of 5% density porosity at 5308'. This is a significant show but too poor to test.

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Morrow (5486) Samples indicate a gray to brown, mottled, fine to medium crystalline, arenaceous (medium-coarse grains) fossiliferous, oolitic, glauconitic limestone at 5650'. Some fine vuggy porosity was present, but there was no fluorescence, stain or cut. There was also some light gray to gray, fine grained, siliceous, calcareous, glauconitic sandstone with some bleeding gas, but no visible porosity or any fluorescence, stain or cut in the fair to good quality samples. A strong 210 unit gas reading (a 180 unit increase over a 30 unit background) was recorded at 5654'. Chromatograph readings of 120-C1, 40-C2, 20-C3, 0-C4 and 0-C5 were plotted. A slight five foot drilling break of about 3min/ft (compared to 3 1/2 to 4 min/ft above) took place at 5654' and samples were circulated at 5646'.

Electric logs show four feet of only 5 1/2% density porosity (no gas effect) at 5646'.

Drill stem test No. 5 over this show yielded only 62' of drilling mud with no show of gas, oil or water. This test was conclusive and no further evaluation is necessary. This zone should be closely checked in future drilling in the area.

Chester (5674) Samples indicate a light gray to tan-gray to buff to brown, finely ceystalline to chalky, fossiliferous, oolitic limestone from 5709' to 5736'. Some fine size vugs and a trace of intra oolitic porosity with yellow fluorescence and fair cut were noted in the fair to good quality samples. Some bleeding gas was also seen. The percent of show in the samples was difficult to determine because much of the cuttings had weak mineral fluorescence with no cut. A fair 70 unit gas detector reading (an increase of 40 units over a 30 unit background) was recorded from 5709' to 5724'. A small 38 unit reading at 5728' and a 46 unit one (possible recycle) at 5744' were also plotted. No distinct drilling breaks took place and this section was drilled at an average rate of 3 1/2 min/ft (compared to 4 1/2 min/ft above). Samples were circulated at 5716' and again at 5747'.

Electric logs show four feet of 6% density porosity with a slight gas effect at 5709'.

Drill stem test No. 6 covering this show had a gas flow of 9200 cf/d. No water was recovered in the test tools. This is a small show but it is from the pay zone in the Harris well to the south and it may be tested thru casing.

Chester Sand Zone(5855) The sands in this section were not well developed. This section should be closely checked in future drilling in the area.

St. Louis (6047) Samples indicate a buff, finely crystalline to chalky limestone from 6090' to 6115' (corrected to 6082' to 6106' on the electric log). The lower 15' of this zone was very chalky. Free oolites were present. Good intra oolitic porosity with some yellow fluorescence and good cut were noted. Sample quality of the upper 15' was good while the lower part (after a DST) was poor. A 76 unit gas reading (a 69 unit increase over a seven unit background) was plotted over the top 15' of this limestone. A good 25' drilling break where the rate was just over two min/ft (compared to over five min/ft above) took place at 6090'. Samples were circulated at 6105' in this zone where DST No. 7 was run. The lower ten feet was drilled after the DST and the mud system was saturated with gas and sample quality was

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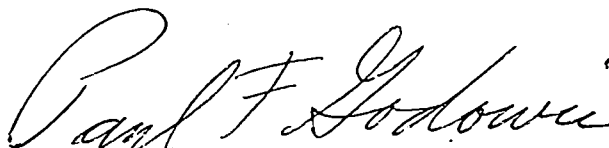
very poor.

Electric logs show 23' of 10% (ave.) density porosity with some gas effect at 6082'.

Drill stem test No. 7 over the upper 15' of the porosity had a good gas flow of 1,824 mcf/d and a shut in pressure of 1941 psi. No water was recovered in the test. This zone looks very good and plans are to thoroughly evaluate it thru casing.

Summary and Conclusions

All formations drilled have been thoroughly evaluated. The St. Louis limestone at 6082' should make a good gas pay. Other zones such as the Chester and the Marmaton may also be checked thru casing. These and other shows such as the Morrow zone at 5646' and the Cherokee Limestone at 5308' should encourage additional drilling in the area.



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Drill Stem Test Field Results

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DST No. 1, 4325'-4350', Lansing Limestone, 25' of anchor, 30 minute initial flow period opened with a weak blow slowly increasing (eight inches in water at end), no gas at surface, 60 minute initial shut in period, 60 minute final flow period had a weak blow slowly increasing (10" in water at end, no gas at surface, 90 minute final shut in period, recovered 651' of total fluid as follows:

- 31' of mud, 100% mud
- 372' of muddy water, 70% mud, 30% water
- 248' of water, 100% water
- (no show of gas or oil)

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IHP 2104, 30"IFP 64-149, 60"ISIP 1228, 60"FFP 202-320, 90"FSIP 1228, FHP 2050, BHT 115°F FROM CONFIDENTIAL

Sample Chamber recovery was 4000 cc of water (no oil or gas present) at a pressure of 100 psi. Chamber capacity is 4000 cc.

| | | | | | | | | | |
|-----------------|-----|------|----|------|------|-----------|----|--------|-----|
| Top recovery Rw | 0.1 | ohms | at | 93°F | with | chlorides | of | 55,000 | ppm |
| Middle | " | 0.1 | " | 93 | " | " | " | 55,000 | " |
| Bottom | " | 0.1 | " | 93 | " | " | " | 55,000 | " |
| Sampler | " | 0.1 | " | 93 | " | " | " | 55,000 | " |

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Trilobite Testing Company, Satana, Kansas, Steve Bowman, Engineer. August 7, 1992. This was a good test mechanically.

DST No. 2, 4562'-4589', Lansing Limestone, 27' of anchor, 30 minute initial flow period opened with a very weak blow (1/4" in water maximum) that died in ten minutes, 30 minute initial shut in period, 30 minute final flow period had a very weak blow (1/16" maximum) that died in 15 minutes, 30 minute final shut in period, recovered 250' of muddy water with no show of gas or oil.

IHP 2203, 30"IFP 42-96, 30"ISIP 1400, 30"FFP 106-138, 30"FSIP 1400, FHP 2137, BHT 119°F

Sample chamber recovery was 500 cc of mud and 3500 cc of water with no show of gas or oil, at a pressure of 75 psi. Sample chamber capacity is 4000 cc.

| | | | | | | | | | |
|-----------------|-----|------|----|------|------|-----------|----|--------|-----|
| Top recovery Rw | 0.1 | ohms | at | 93°F | with | chlorides | of | 55,000 | ppm |
| Middle | " | 0.1 | " | 93 | " | " | " | 55,000 | " |
| Bottom | " | 0.1 | " | 93 | " | " | " | 55,000 | " |
| Sampler | " | 0.1 | " | 93 | " | " | " | 55,000 | " |

Trilobite Testing Company, Satana, Kansas, Steve Bowman, Engineer. August 8, 1992. This was a good test mechanically.

DST No. 3, 4930'-4957', Marmaton, 27' of anchor, 30 minute initial flow period opened with a strong blow (off bottom of bucket in one minute) increasing, but no gas at surface, 45 minute initial shut in period, 90 Minute final flow period had gas to surface in 40 minutes and gauged as follows thru a 1/4" choke:

| | | | | |
|------|------|----|----|---------|
| 3710 | cf/d | in | 40 | minutes |
| 5320 | | | 45 | |
| 6330 | | | 50 | |
| 7320 | | | 55 | |
| 7510 | | | 60 | |

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| | | | | |
|------|------|----|----|---------|
| 7510 | cf/d | in | 65 | minutes |
| 7880 | " | " | 70 | " |
| 7510 | " | " | 75 | " |
| 7510 | " | " | 80 | " |
| 7510 | " | " | 85 | " |
| 7510 | " | " | 90 | " |

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gas would burn with a yellow flame, 120 minute final shut in period, Recovered 4689' of gas in pipe and 217' of total fluid - all gas and oil cut mud, 30% gas, 25% oil & 45% mud. No water present.

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IHP 2454, 30"IFP 42-53, 45"ISIP 1562, 90"FFP 64-96, 120"FSIP 1616, FHP 2366, BHT 120°F

Sample chamber recovery was 500 cc of gas and 3500 cc of oil at a pressure of 200 psi. No mud or water present. (500cc = 2.5 cu ft) Chamber capacity is 4000 cc.

Trilobite Testing Company, Satana, Kansas, Steve Bowman, Engineer, August 10, 1992. Bottom packer slightly damaged, but this was a good test mechanically.

DST No. 4, 4970'-4990', Marmaton, 20' of anchor, 30 minute initial flow period opened with a weak blow slowly increasing for 25 minutes (three inches in water) then decreasing, 45 minute inial shut in period, 60 minute final flow period had a weak blow thru out (1 1/2" in water) no gas at surface, 90 minute final shut in period, Recovered 496' of muddy water with no show of gas or oil.

IHP 2475, 30"IFP 42-106, 45" isip 1595, 60" FFP 149-245, 90" FSIP 1595, FHP 2421, BHT 121°F

Sample chamber recovery was 4000 cc of water at a pressure of 100 psi. No gas, oil or mud present. Chamber capacity is 4000 cc.

| | | | | | | | | | | |
|--------------|----|-----|------|----|------|------|-----------|----|--------|-----|
| Top recovery | Rw | 0.2 | ohms | at | 70°F | with | chlorides | of | 70,000 | ppm |
| Middle | " | 0.2 | " | 70 | " | " | 70,000 | " | | |
| Bottom | " | 0.2 | " | 70 | " | " | 70,000 | " | | |
| Sampler | " | 0.2 | " | 70 | " | " | 70,000 | " | | |

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Trilobite Testing Company, Satana, Kansas, Steve Bowman, Engineer, August 11, 1992. This was a good test mechanically.

DST No. 5, 5602'-5670', Morrow limestone & sand, 68' of anchor, 30 minute initial flow period opened with a weak blow for 15 minutes (three inches maximum) the decreasing, to very weak, 45 minute initial shut in period, 60 minute final flow period opened with a weak blow slowly increasing (five inches in water at end), no gas at surface, 90 minute final shut in period, Recovered 62' of drilling mud with no show of gas, oil or water.

IHP 2836, 30" IFP 64-64, 45" ISIP 96, 60" FFP 64-64, 90" FSIP 352, FHP 2716, BHT 124°F

Trilobite Testing Company, Satana, Kansas, Steve Bowman, Engineer, August 14, 1992. This was a good test mechanically.

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DST No. 6, 5707'-5747', Chester Limestone, 40' of anchor, 30 minute initial flow period opened with a weak blow increasing to strong (off bottom of bucket in three minutes), No gas at surface, 45 minute initial shut in period, 90 minute final flow period opened with a strong blow (off bottom of bucket in one minute) with gas to surface in 50 minutes and gauged as follows thru a 1/4" choke:

| | 3,330 cf/d | | in | 50 minutes |
|--|------------|---|----|------------|
| | 5,050 | " | " | 55 " |
| | 7,510 | " | " | 60 " |
| | 8,560 | " | " | 65 " |
| | 8,560 | " | " | 70 " |
| | 9 200 * | " | " | 75 " |
| | 9,200 | " | " | 80 " |
| | 9,200 | " | " | 85 " |
| | 9,200 | " | " | 90 " |

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*Flow stabilized, 120 minute final shut in period, Gas would burn with a yellow flame. Recovered 155' of gassy mud (5% gas and 95% mud), No water or oil present.

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IHP 2858, 30" IFP 53-74, 45" ISIP 1703, 90" FFP 85-85, 120" FSIP 1768, FHP 2803, BHT 125°F

Sample chamber recoveru was 1,000 cc of gas and 3,000 cc of mud at a pressure of 1000 psi. No oil or water present. Chamber capacity is 4,000 cc.

Trilobite Testing Company, Satana, Kansas, Steve Bowman, Engineer, August 15, 1992. This was a good test mechanically.

DST No. 7, 6055'-6105', St. Louis Limestone, 50' of anchor, 30 minute initial flow period opened with a strong blow (off bottom of bucket immediately) with gas to surface in five minutes and gauged as follows thru a 1 1/2" choke:

| | 863 mcf/d | | in | 5 minutes |
|--|-----------|---|----|-----------|
| | 1063 | " | " | 10 " |
| | 1274 | " | " | 15 " |
| | 1626 | " | " | 20 " |
| | 1694 | " | " | 25 " |
| | 1760 | " | " | 30 " |

60 minute initial shut in period, 60 minute final flow period gauged as follows thru a 1 1/2" choke:

| | 1420 mcf/d | | in | 5 minutes |
|--|------------|---|----|-----------|
| | 1760 | " | " | 10 " |
| | 1824 * | " | " | 15 " |
| | 1824 | " | " | 20 " |
| | 1824 | " | " | 25 " |
| | 1824 | " | " | 30 " |
| | 1824 | " | " | 35 " |
| | 1824 | " | " | 40 " |
| | 1824 | " | " | 45 " |
| | 1824 | " | " | 50 " |
| | 1824 | " | " | 55 " |
| | 1824 | " | " | 60 " |

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*Stabilized, gas would burn with a yellow flame, 120 minute final shut in period, Recovered 5961' of gas in pipe and 65' of gassy mud (10% gas & 90% mud), no oil or water present.

IHP 3131, 30' IFP 363-416, 60" ISIP 1941, 60" FFP 373-427, 120" FSIP 1941, FHP 2869, BHT 125°F

Sample chamber recovery was 4000 cc of gas at a pressure of 1700 psi. No oil, water or mud present. Gas computes to 145 cu ft. Chamber capacity is 4000 cc.

Trilobite Testing Company, Satana, Kansas, Steve Bowman, Engineer, August 17, 1992. This was a good test mechanically.

Bit Record

| <u>Bit No.</u> | <u>Size</u> | <u>Make</u> | <u>Type</u> | <u>Depth Out</u> | <u>Feet</u> | <u>Hours</u> |
|----------------|-------------|-------------|-------------|------------------|-------------|--------------|
| *1. | 12 1/4" | Reed | HPII | 1550' | 1487' | 19 3/4 |
| 2. | 7 7/8" | HTCRR | 05C | 3427' | 1877' | 45 1/2 |
| 3. | " | HTC | ATJ-22 | 4957' | 1530' | 66 1/2 |
| 4. | " | " | " " | 6225' | 1268' | 91 |

* 20" conductor set at 63'

Deviations

| | | | |
|------------|------------|-------------|--------------|
| 257' 1/2° | 1550' 1/4° | 3427' 1/8° | 4957' 1 1/4° |
| 525' 1 | 2053' 1/2 | 3900' 1 | 5670' 1 1/4 |
| 750' 1 1/4 | 2552' 1/2 | 4350' 1 1/8 | 6105' 3/4 |
| 1000' 0 | 3053' 3/4 | 4589' 1 | 6225' 3/4 |

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