PLEASE PRINT OR TYPE

SIDE ONE

ORIGINAL

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

Operator: License # 3855

Name: P&M Petroleum Management

Address 1600 Broadway

Suite 1700

City/State/Zip Denver, CO 80202

Purchaser:

Operator Contact Person: Robert W. Peterson

Phone (303) 861-2470

Contractor: Name: Trans-Pac Drilling, Inc.

License: 5841

Wellsite Geologist: James L. Reeves

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

____ 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 ____ PBTD ____
____ Commingled Docket No. ____
____ Dual Completion Docket No. ____
____ Other (SWD or Inj?) Docket No. ____

12-22-92 | 1-3-93 | 1-28-93
Spud Date | Date Reached TD | Completion Date

API NO. 15- 175-21,294-0000

County Seward

SE/4-NW/4-NW/4 Sec. 19 Twp. 31S Rge. 31W

990 Feet from S/N (circle one) Line of Section

990 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 S.W. College Well # 3

Field Name Thirty-One

Producing Formation Morrow Sand

Elevation: Ground 2835' KB 2846'

Total Depth 5600' PBTD 5531' K.B.

Amount of Surface Pipe Set and Cemented at 1534' Fee

Multiple Stage Cementing Collar Used? ____ Yes X N

If yes, show depth set ____ Fe

If Alternate II completion, cement circulated from 1534'

feet depth to ____ w/ ____ sx cm

Drilling Fluid Management Plan DLT 4-20-93
(Data must be collected from the Reserve Pit)
We will supply data later.

Chloride content ____ ppm Fluid volume ____ bbl

Dewatering method used ____

Location of fluid disposal if hauled offsite:

Operator Name ____

Lease Name ____ License No. ____

____ Quarter Sec. ____ Twp. ____ S Rng. ____ E/W

County ____ Docket No. ____

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.

RECEIVED
STATE CORPORATION COMMISSION

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.

APR 12 1993

Signature Robert W. Peterson

Title Partner/Petroleum Engineer Date 4-8-93

Subscribed and sworn to before me this 8th day of April, 19 93.

Notary Public Linda K. Powell

Date Commission Expires March 19, 1994

CONSERVATION DIVISION
Wichita, Kansas

4-12-93

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)

SIDE TWO

Operator Name P&M Petroleum Management  Lease Name S.W. College  Well # 3

Sec. 19 Twp. 31S Rge. 31  ☐ 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 (Attach Additional Sheets.) | ☒ Yes | ☐ No |
| Samples Sent to Geological Survey | ☐ Yes | ☒ No |
| Cores Taken | ☐ Yes | ☒ No |
| Electric Log Run (Submit Copy.) | ☒ Yes | ☐ No |

List All E.Logs Run:
Dual Induction Log
Dual Compensated Porosity Log

☒ Log  Formation (Top), Depth and Datums  ☐ Sample

| Name | Top | Datum |
|---|---|---|
| Heebner | 4200' | -1354' |
| Toronto | 4216' | -1370' |
| Lansing | 4306' | -1460' |
| Marmaton | 4928' | -2082' |
| Cherokee Shale | 5107' | -2261' |
| Morrow Shale | 5430' | -2584' |
| Morrow Sand | 5460' | -2614' |
| Mississippian | 5488' | -2642' |

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 | 1534 | Lite | 450 | 2% Gel&3% CACL2 |
| | | | | | Reg. Class A | 150 | " " " " |
| Production | 7 7/8" | 4 1/2" | 10.5 | 5583' | ACS | 200 | 5 lbs. Gilsonite/sx |
| | | | | | | | |

ADDITIONAL CEMENTING/SQUEEZE RECORD

| Purpose: | Depth Top | Bottom | Type of Cement | #Sacks Used | Type and Percent Additives |
|---|---|---|---|---|---|
| ___ Perforate | | | | | |
| ___ Protect Casing | | | | | |
| ___ Plug Back TD | | | | | |
| ___ 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 |
|---|---|---|---|
| 2 | 5462-75' K.B. W/32 Gram SCC jets | Frac W/53, 142 lb. 20-40 mesh Ss 320 bbls. gelled water & 321,352 cu. ft. nitrogen | |
| | | | |
| | | | |
| | | | |

| TUBING RECORD | Size | Set At | Packer At | Liner Run |
|---|---|---|---|---|
| | 2 3/8" EUE | 5461' | None | ☐ Yes ☒ No |

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

| Estimated Production Per 24 Hours | Oil | Bbls. | Gas | Mcf | Water | Bbls. | Gas-Oil Ratio | Gravity |
|---|---|---|---|---|---|---|---|---|
| | | 0 | | 1500 | | 0 | | |

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

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

OBICOMPL

Production I

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

ORIGINAL

## Drill-Stem Test Data

Well Name S.W. COLLEGE #3 Test No. 1 Date 1/1/93

Company P & M PETROLEUM MANAGEMENT Zone MORROW

Address 1600 BROADWAY #1700 DENVER CO 80202 Elevation 2846

Co. Rep./Geo. JACK BINKLEY Cont. TRANS-PAC RIG #2 Est. Ft. of Pay 17

Location: Sec. 19 Twp. 31S Rge. 31W Co. SEWARD State KS

Interval Tested 5415-5490 Drill Pipe Size 4.5" XH

Anchor Length 75 Wt. Pipe I.D. - 2.7 Ft. Run

Top Packer Depth 5410 Drill Collar – 2.25 Ft. Run 442/H-90

Bottom Packer Depth 5415 Mud Wt. 9 lb/Gal.

Total Depth 5490 Viscosity 50 Filtrate 6.5

Tool Open @ 1:45 PM Initial Blow VERY STRONG 12" BLOW 1/2 MIN

GAS TO SURFACE IN 11 MINUTES

Final Blow SEE GAS VOLUME REPORT

Recovery - Total Feet 95 Flush Tool? NO

Rec. 5293 Feet of GAS IN PIPE

Rec. 95 Feet of GASSY MUD-5%GAS/95%MUD

Rec. Feet of

Rec. Feet of

Rec. Feet of

BHT 120 °F Gravity °API @ °F Corrected Gravity °API

RW @ °F Chlorides ppm Recovery Chlorides 3200 ppm System

(A) Initial Hydrostatic Mud 2683.3 PSI AK1 Recorder No. 13851 Range 4425

(B) First Initial Flow Pressure 52.2 PSI @ (depth) 5420 w / Clock No. 17652

(C) First Final Flow Pressure 83.3 PSI AK1 Recorder No. 13850 Range 4325

(D) Initial Shut-in Pressure 1016.5 PSI @ (depth) 5487 w / Clock No. 26191

(E) Second Initial Flow Pressure 73.3 PSI AK1 Recorder No. Range

(F) Second Final Flow Pressure 64.4 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 971.6 PSI Initial Opening 15 Final Flow 60

(H) Final Hydrostatic Mud 2606.6 PSI Initial Shut-in 60 Final Shut-in 120

Our Representative STEVE BOWMAN

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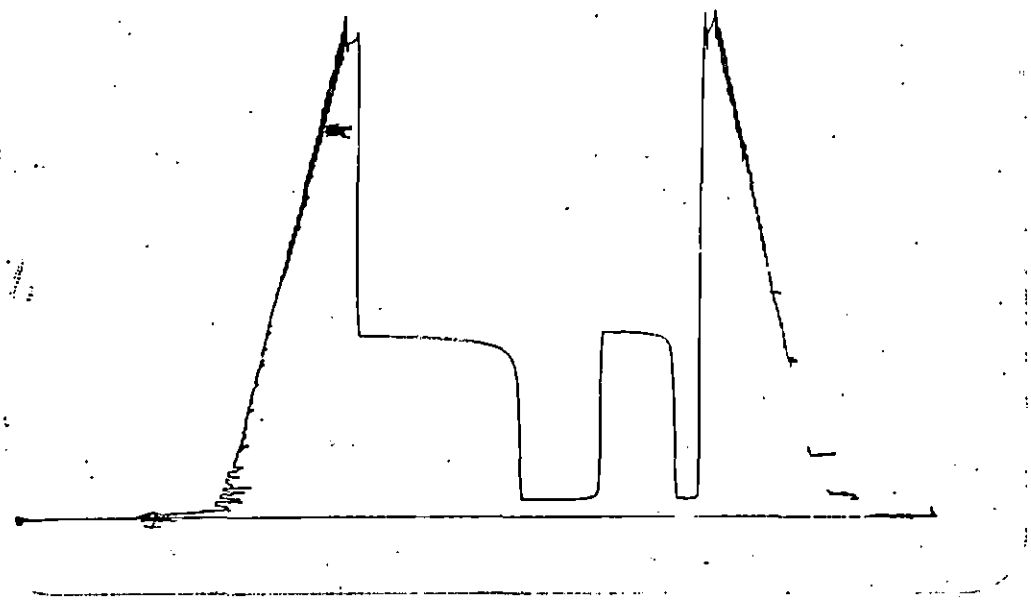
STATE CORPORATION COMMISSION
APR 12 1993
CONSERVATION DIVISION
Wichita, Kansas

CHART PAGE

ORIGINAL

DST #1
13850



This is an actual photograph of recorder chart

| | FIELD READING | OFFICE READING |
|---|---|---|
| (A) INITIAL HYDROSTATIC MUD | 2686 | 2683.3 |
| (B) FIRST INITIAL FLOW PRESSURE | 66 | 52.2 |
| (C) FIRST FINAL FLOW PRESSURE | 88 | 83.3 |
| (D) INITIAL CLOSED-IN PRESSURE | 1002 | 1016.5 |
| (E) SECOND INITIAL FLOW PRESSURE | 88 | 73.3 |
| (F) SECOND FINAL FLOW PRESSURE | 77 | 64.4 |
| (G) FINAL CLOSED-IN PRESSURE | 980 | 971.6 |
| (H) FINAL HYDROSTATIC MUD | 2553 | 2606.6 |

ORIGINAL

COMPUTER EVALUATION BY TRILOBITE TESTING, L.L.C.

P & M PETROLEUM MANAGEMENT

S.W. COLLEGE #3 1

19 31S 31W SEWARD KS

| | | | |
|---|---|---|---|
| ELEVATION: | 2846 KB | EST. PAY: | 17 FT. |
| DATUM: | -2575 | ZONE TESTED: | MORROW |
| TEST INTERVAL: | 5415-5490 | TIME INTERVALS: | 15-60-60-120 |
| RECORDER DEPTH: | 5420 | VISCOSITY: | 0.01326 CP |
| BOTTOM HOLE TEMP: | 120 | HOLE SIZE: | 7.875 IN |
| COMPRESSIBILITY: | 0.9973 | GAS GRAVITY: | 0.694 |

| | | |
|---|---|---|
| TEMPERATURE RANKINE: | 580.00 | & |
| TRANSMISSIBILITY: | 9000.80 | Kh/% |
| THEORITICAL FLOW CAPICITY: | 119.35 | Kh |
| AVERAGE EFFECTIVE PERMEABILITY: | 7.02 | K(md.) |
| RADIUS OF INVESTIGATION: | 22.95 | FT. |
| DAMAGE RATIO: | 5.70 | |
| ABSOLUTE OPEN FLOW(MAX) | 231.99 | MCFD |
| ABSOLUTE OPEN FLOW(MIN) | 231.50 | MCFD |
| THEORITICAL OPEN FLOW(MAX) | 1321.70 | MCFD |
| THEORITICAL OPEN FLOW(MIN) | 1318.87 | MCFD |
| POTENTIOMETRIC SURFACE | 0.00 | (FT.) |

INITIAL SHUT-IN VALUES:

| | |
|---|---|
| SLOPE | 4274.62 |
| THEORETICAL STATIC PRESSURE | 1019 |

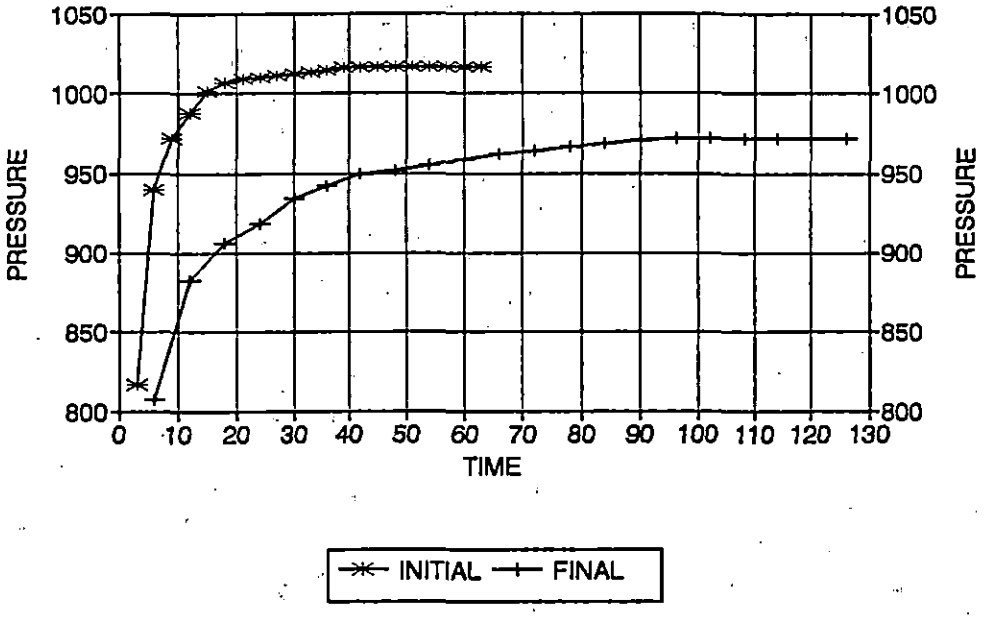
FINAL SHUT-IN VALUES:

| | |
|---|---|
| SLOPE | 24301.53 |
| THEORETICAL STATIC PRESSURE | 984 |

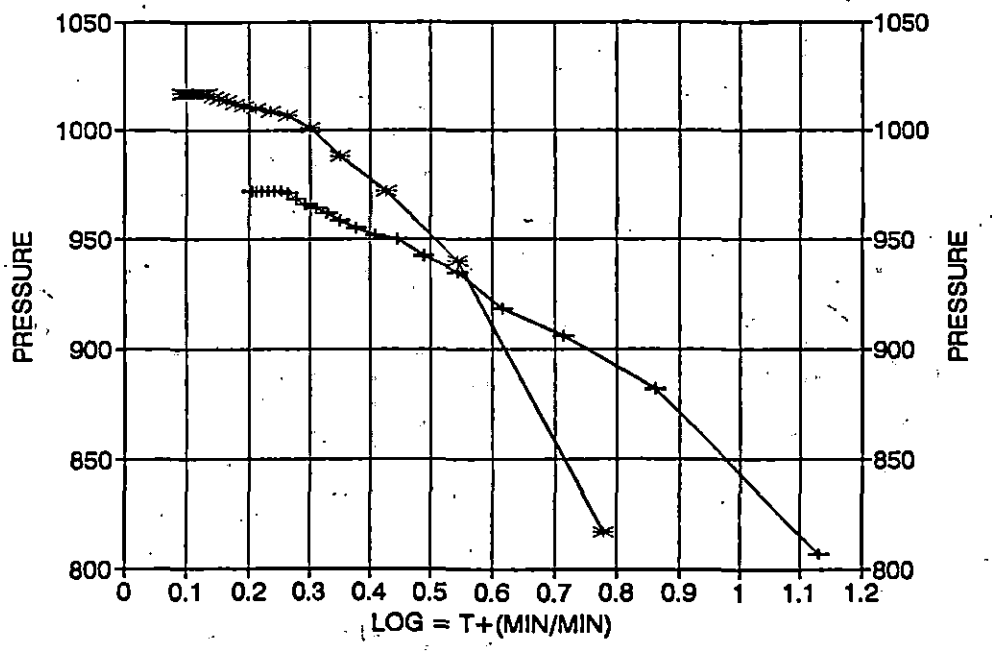
DRAWDOWN FACTOR: 3.39 (%)

ORIGINAL

# S.W. COLLEGE #3 / DST #1
# DELTA T DELTA P




# HORNER PLOT



S.W.COLLEGE DST #1
INITIAL SHUTIN

15 TOTAL FLOW TIME

Slope 4274.62 psi/cycle
P * 1019 psi

ORIGINAL

| | TIME(MIN) | Pws (psi) | Log Horn T | <> PRESSURE | Horn T |
|---|---|---|---|---|---|
| | 3 | 816.6 | 0.778 | 816.6 | 6 |
| | 6 | 939.9 | 0.544 | 123.3 | 4 |
| | 9 | 971.6 | 0.426 | 31.7 | 3 |
| | 12 | 987.9 | 0.352 | 16.3 | 2 |
| | 15 | 1001.1 | 0.301 | 13.2 | 2 |
| | 18 | 1006.6 | 0.263 | 5.5 | 2 |
| | 21 | 1008.8 | 0.234 | 2.2 | 2 |
| | 24 | 1009.9 | 0.211 | 1.1 | 2 |
| | 27 | 1011.0 | 0.192 | 1.1 | 2 |
| | 30 | 1012.1 | 0.176 | 1.1 | 2 |
| | 33 | 1013.2 | 0.163 | 1.1 | 1 |
| | 36 | 1014.3 | 0.151 | 1.1 | 1 |
| x | 39 | 1015.4 | 0.141 | 1.1 | 1 |
| | 42 | 1016.5 | 0.133 | 1.1 | 1 |
| | 45 | 1016.5 | 0.125 | 0.0 | 1 |
| | 48 | 1016.5 | 0.118 | 0.0 | 1 |
| | 51 | 1016.5 | 0.112 | 0.0 | 1 |
| | 54 | 1016.5 | 0.106 | 0.0 | 1 |
| | 57 | 1016.5 | 0.101 | 0.0 | 1 |
| | 60 | 1016.5 | 0.097 | 0.0 | 1 |
| X | 63 | 1016.5 | 0.093 | 0.0 | 1 |

S.W. COLLEGE DST #1
FINAL SHUTIN

75 TOTAL FLOW TIME

Slope 24301.53 psi/cycle
P * 984 psi

ORIGINAL

| | | Pws (psi) | Log Horn T | <> PRESSURE | Horn T |
|---|---|---|---|---|---|
| | 6 | 806.8 | 1.130 | 806.8 | 14 |
| | 12 | 882.1 | 0.860 | 75.3 | 7 |
| | 18 | 906.1 | 0.713 | 24.0 | 5 |
| | 24 | 913.7 | 0.615 | 7.6 | 4 |
| | 30 | 934.5 | 0.544 | 20.8 | 4 |
| | 36 | 942.1 | 0.489 | 7.6 | 3 |
| | 42 | 949.8 | 0.445 | 7.7 | 3 |
| | 48 | 951.9 | 0.409 | 2.1 | 3 |
| | 54 | 955.2 | 0.378 | 3.3 | 2 |
| | 60 | 958.5 | 0.352 | 3.3 | 2 |
| | 66 | 961.8 | 0.330 | 3.3 | 2 |
| | 72 | 964.0 | 0.310 | 2.2 | 2 |
| X | 78 | 966.1 | 0.293 | 2.1 | 2 |
| | 84 | 968.3 | 0.277 | 2.2 | 2 |
| | 90 | 970.5 | 0.263 | 2.2 | 2 |
| | 96 | 971.6 | 0.251 | 1.1 | 2 |
| | 102 | 971.6 | 0.239 | 0.0 | 2 |
| | 108 | 971.6 | 0.229 | 0.0 | 2 |
| | 114 | 971.6 | 0.220 | 0.0 | 2 |
| | 120 | 971.6 | 0.211 | 0.0 | 2 |
| X | 126 | 971.6 | 0.203 | 0.0 | 2 |

# GAS VOLUME REPORT

ORIGINAL

P & M PETROLEUM MANAGEMENT

S.W. COLLEGE #3 DST # 1

| MIN | INCHES OF WTR | ORIFICE | MCF/D | MIN | INCHES OF WTR | ORIFICE | MCF/D |
|---|---|---|---|---|---|---|---|
| 5 | | 1 | | 5 | 50 | 1 | 183 |
| 10 | | 1 | | 10 | 54 | 1 | 190 |
| 15 | 20 | 1 | 115 | 15 | 60 | 1 | 200 |
| | | | | 20 | 64 | 1 | 207 |
| | | | | 25 | 80 | 1 | 231 |
| | | | | 30 | 76 | 1 | 225 |
| | | | | 35 | 76 | 1 | 225 |
| | | | | 40 | 76 | 1 | 225 |
| | | | | 45 | 78 | 1 | 228 |
| | | | | 50 | 78 | 1 | 228 |
| | | | | 55 | 80 | 1 | 231 |
| | | | | 60 | 80 | 1 | 231 |

Remarks:

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

ORIGINAL

## Test Ticket

No. 5482

Well Name & No. S.W. College #3 Test No. #1 Date 1-1-93

Company P+M Petroleum Management Zone Tested Morrow

Address 1600 Broadway Ste, 1700 Denver, Colo 80202 Elevation 2846 KB

Co. Rep. / Geo. Jack Binkley Cont. Trans-Pac Rig #2 Est. Ft. of Pay 17

Location: Sec. 19 Twp. 31S Rge. 31W Co. Seward State KS

No. of Copies ____ Distribution Sheet ____ Yes ✓ No Turnkey ____ Yes ✓ No ____ Evaluation

Interval Tested 5415 to 5490 Drill Pipe Size 4½ XH

Anchor Length 75' Top Choke — 1" ____ Bottom Choke — ¾" ____

Top Packer Depth 5410 Hole Size — 7⅞" ____ Rubber Size — 6¾" ____

Bottom Packer Depth 5415 Wt. Pipe I.D. — 2.7 Ft. Run —

Total Depth 5490 Drill Collar — 2.25 Ft. Run 442 H-90

Mud Wt. 9.0 lb / gal. Viscosity 50 Filtrate 6.5

Tool Open @ 1:45 P.M. Initial Blow Very Strong 12 inch Blow ½ min

Gas To Surface in 11 min

Final Blow (See Gas Volume Report)

Recovery — Total Feet 95 Feet of Gas In Pipe 5293 Flush Tool? No

Rec. 95 Feet Of Gassy mud 5 %gas %oil %water 95 %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

BHT 120 °F Gravity ____ °API @ ____ °F Corrected Gravity ____ °API

RW ____ @ ____ °F Chlorides ____ ppm Recovery Chlorides 3200 ppm System

(A) Initial Hydrostatic Mud 2686 PSI AK1 Recorder No. 13851 Range 4425

(B) First Initial Flow Pressure 66 PSI @ (depth) 5420 w/Clock No. 17652

(C) First Final Flow Pressure 88 PSI AK1 Recorder No. 13850 Range 4325

(D) Initial Shut-In Pressure 1002 PSI @ (depth) 5487 w/Clock No. 26191

(E) Second Initial Flow Pressure 88 PSI AK1 Recorder No. ____ Range ____

(F) Second Final Flow Pressure 77 PSI @ (depth) ____ w/Clock No. ____

(G) Final Shut-In Pressure 980 PSI Initial Opening 15 Test ✓ 700.00

(H) Final Hydrostatic Mud 2553 PSI Initial Shut-In 60 Jars ✓ 200.00

Final Flow 60 Safety Joint ✓ 50.00

Final Shut-In 120 Straddle ____

Circ. Sub ____

Sampler ____

Extra Packer ____

Other (gas enrol)

TOTAL PRICE $ ✓ 950.00



Approved By Jack L. Binkley

Our Representative Steve Bowman Thank You

Printcraft Printers - Hays, KS

# STATE OF KANSAS – CORPORATION COMMISSION

FORM CG-1

## MULTIPOINT BACK PRESSURE TEST

TYPE TEST: ☒ Initial ☐ Annual ☐ Special TEST DATE: 2-2-93

COMPANY: P & M PETROLEUM MGMT. INC. LEASE: S. W. COLLEGE WELL NO.: 3

COUNTY: SEWARD LOCATION: 990FNL&990FWL SECTION: 19 TWP: 31S RNG: 31W ACRES:

ORIGINAL

FIELD: THIRTY-ONE RESERVOIR: MORROW PIPELINE CONNECTION: NONE

COMPLETION DATE: 1-28-93 PLUG BACK TOTAL DEPTH: 5531 PACKER SET AT: NONE

| CASING SIZE | WT. | ID | SET AT | PERF. | TO |
|---|---|---|---|---|---|
| 4 1/2 | 10.5 | 4.052 | 5583 | 5462 | 5475 |

| TUBING SIZE | WT. | ID. | SET AT | PERF. | TO |
|---|---|---|---|---|---|
| 2 3/8 | 4.7 | 1.995 | 5461 | | |

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

PRODUCING THRU: TUBING RESERVOIR TEMPERATURE °F: 136 @ 5469 BAR PRESS – $P_a$: 14.4 Psia

GAS GRAVITY – $G_g$: .671 % CARBON DIOXIDE % NITROGEN API GRAVITY OF LIQUID

VERTICAL DEPTH (H): 5469 TYPE METER CONN.: Prover (METER RUN) (PROVER) SIZE: 2"

REMARKS:

### 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. psig | CASING WELLHEAD PRESS. $(P_w)(P_t)(P_c)$ psia | TUBING WELLHEAD PRESS. psig | TUBING WELLHEAD PRESS. $(P_w)(P_t)(P_c)$ psia | DURATION HOURS | LIQUID PROD. Bbls. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SHUT IN | | | | | | 1139.0 | 1153.4 | 1136.0 | 1150.4 | 118 | 0.0 |
| 1 | 5/32 | 1099 | | 54 | 74 | 1119.0 | 1133.4 | 1099.0 | 1113.4 | 1.0 | 0.0 |
| 2 | 7/32 | 1046 | | 62 | 74 | 1104.0 | 1118.4 | 1046.0 | 1060.4 | 1.0 | 0.0 |
| 3 | 5/16 | 924 | | 66 | 74 | 1052.0 | 1066.4 | 924.0 | 938.4 | 1.0 | 0.0 |
| 4 | 7/16 | 783 | | 68 | 74 | 969.0 | 983.4 | 783.0 | 797.4 | 1.0 | 0.0 |
| 5 | | | | | | | | | | | |

### RATE OF FLOW CALCULATIONS

| RATE NO. | COEFFICIENT $(F_b)(F_p)$ Mcfd | (METER) (PROVER) PRESSURE psia | EXTENSION $\sqrt{P_m x h_w}$ | GRAVITY FACTOR $F_g$ | FLOWING TEMP FACTOR $F_t$ | DEVIATION FACTOR $F_{pv}$ | RATE OF FLOW Q Mcfd | GOR | $O_m$ |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.409 | 1113.4 | | 1.221 | 1.006 | 1.144 | 639.1 | 0 | 0.671 |
| 2 | 0.861 | 1060.4 | | 1.221 | 0.998 | 1.127 | 1253.2 | 0 | 0.671 |
| 3 | 1.714 | 938.4 | | 1.221 | 0.994 | 1.108 | 2162.3 | 0 | 0.671 |
| 4 | 3.495 | 797.4 | | 1.221 | 0.992 | 1.089 | 3676.4 | 0 | 0.671 |
| 5 | | | | | | | | | |

### PRESSURE CALCULATIONS

| RATE NO. | $P_t$ psia | $P_c$ psia | $P_w$ psia | $(P_c)^2$ THOUSANDS | $(P_w)^2$ THOUSANDS | PLOTTING POINTS $(P_c)^2-(P_w)^2$ THOUSANDS | PLOTTING POINTS Q Mcfd | % SHUT-IN $100\left[\frac{P_w - P_a}{P_c - P_a}\right]$ |
|---|---|---|---|---|---|---|---|---|
| 1 | 1133.4 | 1153.4 | 1133.4 | 1330.3 | 1284.6 | 45.7 | 639.1 | 98.2 |
| 2 | 1118.4 | 1153.4 | 1118.4 | 1330.3 | 1250.8 | 79.5 | 1253.2 | 96.9 |
| 3 | 1066.4 | 1153.4 | 1066.4 | 1330.3 | 1137.2 | 193.1 | 2162.3 | 92.4 |
| 4 | 983.4 | 1153.4 | 983.4 | 1330.3 | 967.1 | 363.3 | 3676.4 | 85.1 |
| 5 | | | | | | | | |

INDICATED WELLHEAD OPEN FLOW: 10782 OWO Mcfd @ 14.65 psia "n" = .829

RECEIVED
STATE CORPORATION COMMISSION
APR 12 1993
CONSERVATION DIVISION
Wichita, Kansas

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 2ND day of FEBRUARY, 19 93.

Witness (If any)

For Commission

PRECISION WELL TEST
For Company

STEVE HELM
Checked by

# BACK PRESSURE CURVE

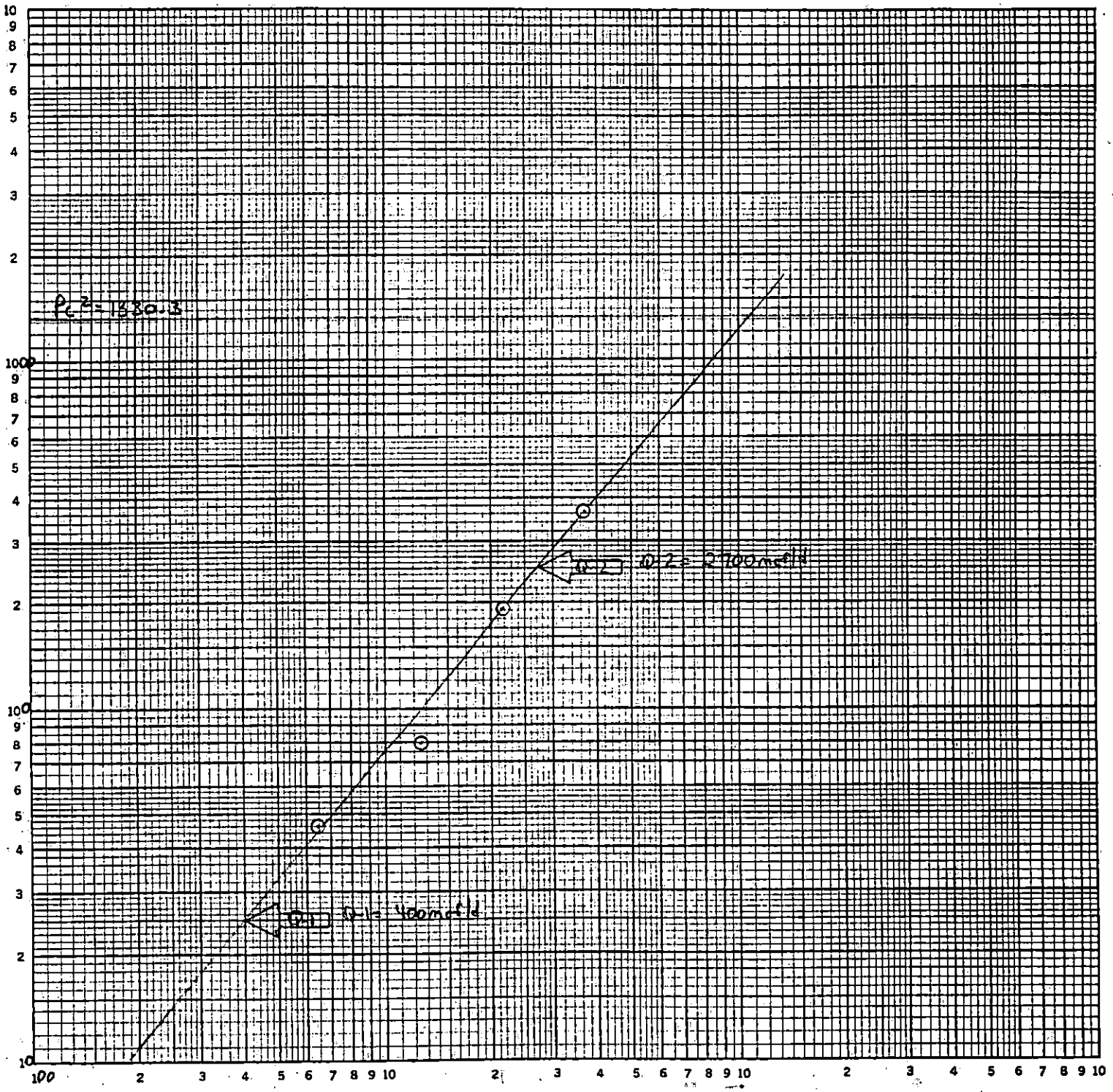
OPERATOR: P & M PETROLEUM MANAGEMENT INC DATE OF TEST: 2-2-93

WELL NAME: S. W. COLLEGE #3 TYPE OF PLOT:

LOCATION: 19-31S-31W

COUNTY: SEWARD STATE: KS

ORIGINAL




Q-2 = 2700mcf/d

Q-1 = 400mcf/d

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CONSERVATION DIVISION
Wichita, Kansas

LOG Q-2 = 3.431

LOG Q-1 = 2.602

'n' = .829

ORIGINAL

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Sample Number: 93-013

**PRECISION WELL TESTING**
**NATURAL GAS ANALYSIS REPORT**
**316-624-4505**

Operator: P&M Management Inc.
Well Name: S.W. College #3
Location: sec 19-twp 31-rgn 31
County: Seward
State: Kansas

Analysis Date: 02-04-93
Sample Date: 02-02-93
Sample Pressure:

Sample Source: Wellhead
Formation: Morrow 5462-5475

Requested By: P&M Management Inc.
Sampled By: Steve Helm

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

NATURAL GAS ANALYSIS

| NAME | MOLE % | GPM |
|---|---|---|
| HELIUM | 0.19 | |
| HYDROGEN | 0.00 | |
| OXYGEN | 0.00 | |
| HEXANES + | 0.29 | 0.1265 |
| NITROGEN | 6.81 | |
| METHANE | 82.49 | |
| CARBON DIOXIDE | 0.13 | |
| ETHANE | 5.78 | 1.5459 |
| PROPANE | 2.83 | 0.7798 |
| ISOBUTANE | 0.35 | 0.1145 |
| N-BUTANE | 0.77 | 0.2428 |
| ISOPENTANE | 0.17 | 0.0622 |
| N-PENTANE | 0.19 | 0.0498 |
| TOTALS | 100.00 | 2.9215 |

Specific Gravity: 0.6706

BTU/cu.ft. (saturated, 60 F. 14.73 psia): 1058.9
BTU/cu.ft. (dry, 60 F. 14.73 psia): 1077.9

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

PRIORITY
ANALYTICAL LABORATORY, INC.
424 Greenwood • Wichita, Kansas 67211 • (316) 269-4200

ORIGINAL

**********
*EXTENDED NATURAL GAS ANALYSIS*
**********

COMPANY NAME: P & M PETROLEUM MGT LAB# 9314749
SAMPLE ID: S W COLLEGE #3
SETT #: DST #1--MORROW FORMATION
COUNTY: SEWARD LEGAL LOCATION: 19-31S-31W
DATE SAMPLED: N/A 0 SAMPLER: TRILOBITE
SAMPLE PRESSURE: N/A TEMPERATURE (F): N/A
DATE ANALYZED: JANUARY 7 1993
QUALITY CONTROL DATE: JANUARY 7 1993

**********ANALYSIS*****CALCULATED AT 14.65 PSIA. AT 60 F**NORMALIZED**********

| HYDROCARBONS | MOLAL% | LIQUID VOLUME% | BTU AMOUNT | GPM |
|---|---|---|---|---|
| METHANE | 81.38 | 76.7 | 819.37 | 0 |
| ETHANE | 5.85 | 8.71 | 103.2 | 0 |
| PROPANE | 3.12 | 4.78 | 78.26 | .85 |
| ISO-BUTANE | .46 | .84 | 14.91 | .15 |
| NORMAL-BUTANE | .95 | 1.67 | 30.89 | .3 |
| ISO-PENTANE | .26 | .53 | 10.37 | .09 |
| NORMAL-PENTANE | .29 | .59 | 11.59 | .1 |
| 3-METHYLPENTANE | * | | | |
| 2.3-DIMETHYLBUTANE | * | | | |
| 2-METHYLPENTANE | * | | | |
| CYCLOPENTANE | * | | | |
| NORMAL HEXANE | * | | | |
| HEXANES+ | .82 | 1.89 | 41.41 | .35 |
| NITROGEN | 6.45 | 3.95 | 0 | 0 |
| OXYGEN | 0 | 0 | 0 | 0 |
| CARBON DIOXIDE | .29 | .27 | 0 | 0 |
| HELIUM | .13 | .07 | 0 | |
| HYDROGEN | TRACE(<.01) | | | |
| TOTALS****** | 100 | 100 | 1110 | 1.84 |

BTU/FT³ DRY (IDEAL GROSS): 1110
BTU/FT³ SATURATED (IDEAL GROSS): 1091.46
IDEAL SPECIFIC GRAVITY: .694
COMPRESSIBILITY: .9973
GPM: 1.84
*=COMBINED WITH HEXANES+

RESPECTFULLY SUBMITTED

Roland Franklin

PRIORITY ANALYTICAL LAB

FORM CIG 4900 10/78

# COLORADO INTERSTATE GAS COMPANY

PRINT DATE: 01/01/1991

## GRAVITY TEST REPORT

ORIGINAL

| LOCATION CODE | GRAVITY | MONTH | DIST. CODE | CUSTOMER OR PRODUCER | STATION OR WELL |
|---|---|---|---|---|---|
| 2658501 | .682 | 91-01 | 040 | P&M PETROLEUM MANAGEMEN | COLLEGE, S.W. 1 |

(1) EDWARDS BALANCE SERIAL NO.:

| TEST | AIR mm Hg | TEMP °F | ABS. TEMP. 460+ °F | GAS mm Hg | TEMP. °F | ABS. TEMP. 460+ °F | BAROMETER mm Hg |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |

BAROMETER (mm) − AIR (mm) =

BAROMETER (mm) + GAS (mm) =

(AIR) ÷ (GAS) =

(ABS. TEMP. GAS) ÷ (ABS. TEMP. AIR) =

(UNCORR. GRAV.) × (TEMP. FAC.) =

REMARKS:

(2) RANEREX BALANCE: SERIAL NO.: P-8691

OBS. GAS GRAVITY: .682 VOLT: 110 PRES./VAC. "$H_2O$

STD. GAS GRAVITY: OBS. STD. GAS GRAVITY:

(3) GRAVITOMETER: SERIAL NO.:

GRAVITY FOUND: GRAVITY LEFT:

COMPENSATOR READING: TEMPERATURE °F

METER CODE STAMP:

26585 01250

WITNESS: DATE: 12-16-91

COMPANY: TESTER: Robert D Haward

CANARY - MEASUREMENT PINK - WITNESS BLUE - FIELD

Phone 913-483-2627, Russell, Kansas
Phone 316-793-5861, Great Bend, Kansas

ORIGINAL

Phone Plainville 913-434-2812
Phone Ness City 913-798-3843

# ALLIED CEMENTING CO., INC.

3389

Home Office P. O. Box 31 Russell, Kansas 67665

| Date | Sec. | Twp. | Range | Called Out | On Location | Job Start | Finish |
|---|---|---|---|---|---|---|---|
| 12/22/92 | 19 | 31S | 31W | 6:00 AM | 11:00 AM | 4:00 PM | 6:00 PM |

| Lease | Well No. | Location | County | State |
|---|---|---|---|---|
| D.W. COLLEGE | 3 | TRAINS, 9W, 4½N, ½W, S | SEWARD | KANSAS |

Contractor TRANS PAC DRLG #2

Type Job SURFACE

| | | | |
|---|---|---|---|
| Hole Size | 12¼" | T.D. | 1550' |
| Csg. | 8⅝" 24# | Depth | 1548' |
| Tbg. Size | | Depth | |
| Drill Pipe | 4½" 16.6# | Depth | |
| Tool | | Depth | |
| Cement Left in Csg. | | Shoe Joint | 44.98' |
| Press Max. | | Minimum | |
| Meas Line | | Displace | 88½ BBLS |
| Perf. | | | |

Owner PMC PETROLEUM MANAGEMENT

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To PMC PETRO. MGMNT

Street 1600 BROADWAY, #1700

City DENVER State COLORADO 80202

The above was done to satisfaction and supervision of owner agent or contractor.

Purchase Order No.

X Ernest Brumley

## EQUIPMENT

| | | |
|---|---|---|
| Pumptrk No. 224 | Cementer | K. BANGARDT |
| | Helper | J. HART |
| Pumptrk No. | Cementer | |
| | Helper | |
| Bulktrk 259 | Driver | M. WOLF |
| | | J. KELLEY |
| Bulktrk | Driver | |

## CEMENT

Amount Ordered 450 SK CLASS A 3% CC
150 SK A 2% CC, 2% BENTONITE
625 SK H 3% CC

Consisting of

| | | |
|---|---|---|
| Common | | |
| Poz. Mix | | |
| Gel. | | |
| Chloride | | |
| Quickset | | |
| | Sales Tax | |
| Handling | | |
| Mileage | | |
| | Sub Total | |
| | Total | |

DEPTH of Job

| Reference: | | |
|---|---|---|
| 1 | PUMP CHARGE TO 1548' | |
| 100 | MILEAGE ON PUMP | |
| 1 | 8⅝" TOP RUBBER PLUG | |
| | Sub Total | |
| | Tax | |
| | Total | |

Floating Equipment

1-8⅝" GUIDE SHOE-W
1-8⅝" AFU INSERT-W
5-8⅝" CENTRALIZERS-W
1-8⅝" BASKET-W

Remarks:

# ALLIED CEMENTING CO., INC.

P.O. BOX 31
RUSSELL, KS 67665

# CEMENTING LOG

STAGE NO. ORIGINAL

Date 12/23/93 District Hugoton Coode Ticket No. 2239
Company THUNDERBIRD MIDWAY Rig TRAN-PAC #2
Lease SOUTHWEST GULLEY UNIT Well No. 2
County STEVENS State KANSAS
Location 19-32S-34W Field THIRTY ONE
MAIN: 9W, 5N, ½E, ¾S

CASING DATA: PTA ☐ Squeeze ☐
Surface ☒ Intermediate ☐ Production ☐ Liner ☐
Size 8 5/8" Type JE Weight 24# Collar STD

BUTT - 2920'
COLLARS - 1320'
Casing Depths: Top KB Bottom 1548'

Drill Pipe: Size 4½" Weight 16.6# Collars XH
Open Hole: Size 12¼" T.D. 1550 ft. P.B. to ft.

CAPACITY FACTORS:
Casing: Bbls/Lin. ft. .0637 Lin. ft./Bbl. 15.7'
Open Holes: Bbls/Lin. ft. .1458 Lin. ft./Bbl. 6.85'
Drill Pipe: Bbls/Lin. ft. .01422 Lin. ft./Bbl. 70.3'
Annulus: Bbls/Lin. ft. .0735 Lin. ft./Bbl. 13.6'
Bbls/Lin. ft. Lin. ft./Bbl.

Perforations: From ft. to ft. Amt.

COMPANY REPRESENTATIVE DUSTY

CEMENT DATA:
Spacer Type: FRESH H2O
Amt. Sks Yield ft³/sk Density PPG

LEAD: Pump Time hrs. Type ALLIED LITE
3% GEL 2% CACL Excess
Amt. 450 Sks Yield 1.67 ft³/sk Density 12.0 PPG

TAIL: Pump Time hrs. Type CLASS A
2% GEL 2% CACL Excess
Amt. 150 Sks Yield 1.24 ft³/sk Density 15.2 PPG

WATER: Lead gals/sk Tail gals/sk Total Bbls.

Pump Trucks Used 222/224 AUSTIN HART
Bulk Equip. 259/271 JOHN KELLEY
MAX WOLF

Float Equip: Manufacturer WEATHERFORD
Shoe: Type CEMENT Depth 1548'
Float: Type AFU Depth 1503'
Centralizers: Quantity 2 Plugs Top RUBBER Btm.
Stage Collars
Special Equip. BASKET @ 180'
Disp. Fluid Type FRESH H2O Amt. 97 Bbls. Weight 8.4 PPG
Mud Type Weight PPG

CEMENTER KEVIN BRUNGARDT

| TIME AM/PM | PRESSURES PSI DRILL PIPE CASING | ANNULUS | FLUID PUMPED DATA TOTAL FLUID | Pumped Per Time Period | RATE Bbls Min. | REMARKS |
|---|---|---|---|---|---|---|
| 11:00 | | | | | | ON LOCATION - RIG UP |
| | | | | | | TOOL SAFETY MEETING |
| | | | | | | RUN 8 5/8" CASING TO BOTTOM |
| | | | | | | BREAK CIRCULATION |
| | | | | | | RIG UP TO CEMENT PLUG |
| | 350 | | | | 5 | START FRESH H2O |
| | 350 | | 3 | 3 | 5 | FRESH H2O TO START LEAD |
| | 400 | | 8 | 5 | 6½ | INCREASE RATE |
| | 450 | | 137 | 129 | 6½ | LEAD IN - START TAIL |
| | 450 | | 173 | 36 | 6½ | TAIL IN - STOP PUMPS |
| | | | | | | RELEASE PLUG |
| | | | | | 2 | START DISPLACEMENT |
| | 100 | | 175 | 2 | 5 | INCREASE RATE |
| | 200 | | 233 | 58 | 5 | RADIAL PRESSURE INCREASE |
| | 450 | | 266 | 33 | 3½ | SLOW RATE |
| | 600 | | 270 | 4 | 3½ | PLUG DOWN - HOLD PRESSURE |
| 5:00 | 1100 | | | | | RELEASE PRESSURE - FLOAT HOLDS |
| | | | | | | DID NOT CIRCULATE CEMENT |
| 6:00 | 50 | | 281 | 11 | ½ | RUN 1" TO 130' & CIRCULATE TO |
| | | | | | | SURFACE W/ 50 SX A + 2% GEL + |

FINAL DISP PRESS 60 PSI BUMP PLUG TO 1100 PSI BLEEDBACK ½ BBLS.

THANK YOU

Phone 913-483-2627, Russell, Kansas
Phone 316-793-5861, Great Bend, Kansas

ORIGINAL

Phone Plainville 913-434-2812
Phone Ness City 913-798-3843

# ALLIED CEMENTING CO., INC. 5872

New

Home Office P. O. Box 31 Russell, Kansas 67665

| Date | Sec. | Twp. | Range | Called Out | On Location | Job Start | Finish |
|---|---|---|---|---|---|---|---|
| 1-3-93 | | | | 12:00 A.m. | 4:45 A.m. | 9:15 A.m. | 10:00 A.m. |

| Lease | Well No. | Location | County | State |
|---|---|---|---|---|
| S. W. College | #3 | Plains Ks, 9w-4½n-½s | Seward | Ks. |

Contractor Transpac #2

Type Job Production Casing 4½

Hole Size 7⅞ T.D. 5600'

Csg. 4½ x 10.5# Depth 5584.87

Tbg. Size Depth

Drill Pipe 4½ X-Hole Depth 5600'

Tool Depth

Cement Left in Csg. Shoe Joint 37.44

Press Max. 1500 Minimum 300

Meas Line Displace 91½

Perf.

Owner P & M Pet. Management

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To P & M Pet. Management

Street 1600 Broadway Suite 1700

City Denver State Co. 80202

The above was done to satisfaction and supervision of owner agent or contractor.

Purchase Order No.

x Jack L. Binkley

## EQUIPMENT

| | | |
|---|---|---|
| Pumptrk #233 No. | Cementer | Larry Dreiling |
| | Helper | Carl Balding |
| Pumptrk No. | Cementer | |
| | Helper | |
| Bulktrk #256 | Driver | Max Wolf |
| Bulktrk | Driver | |

CEMENT

Amount Ordered 500 Gallon Mud Sweep
200 sks. ASC, 5# Kol-Seal/sk.

Consisting of

| | | | |
|---|---|---|---|
| Common | 200 ASC | 7.50 | 1500.00 |
| Poz. Mix | | | |
| Gel. | | | |
| Chloride | Kol-Seal-1000# | .35 | 350.00 |
| Quickset | | | |
| | 500 gls. Mud Sweep | 1.73 | 865.00 |
| | Sales Tax | | |
| Handling | 200 | 1.00 | 200.00 |
| Mileage | 100 | | 800.00 |
| | Total #5254.00 | Sub Total | |
| | Disc - 1050.80 | | |
| | #4203.20 | Total | 3715.00 |

DEPTH of Job

| Reference: | | |
|---|---|---|
| | Pump Trk | 880.00 |
| 1 | 4½ Top Resin Plug | 33.00 |
| | Sub Total | |
| | Tax | |
| | Total | 913.00 |

Floating Equipment

| | |
|---|---|
| 1-4½ Reg Guide Shoe (w) | 109.00 |
| 1-4½ AFU Insert (w) | 169.00 |
| 6-4½ Centerlizers | 318.00 |
| 1-Thread-lok | 30.00 |
| | $626.00 |

Remarks: "See Log"

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Wichita, Kansas

ALLIED CEMENTING CO., INC.

P.O. BOX 31
RUSSELL, KS 67665

# CEMENTING LOG

STAGE NO.

ORIGINAL

Date 1-3-93 District Med. Lodge Ticket No. 5872

Company P+M Pet Management Rig Trans Pac

Lease S. W. College Well No. #3

County Seward State Kansas

Location Plains Ks. And Hiway 160 Field

9w2-4½n-½w2-¼s.

CASING DATA: PTA ☐ Squeeze ☐

Surface ☐ Intermediate ☐ Production ☑ Liner ☐

Size 4½ Type J-55 Weight 10.5 Collar

Burst 4,790 PSI Collapse 4,010 PSI

Casing Depths: Top Bottom

Drill Pipe: Size 4½ Weight 16.6 Collars X-Hole

Open Hole: Size 7 7/8 T.D. 5600 ft. P.B. to ft.

CAPACITY FACTORS:

| | | | | |
|---|---|---|---|---|
| Casing: | Bbls/Lin. ft. .0159 | Lin. ft./Bbl. 62.70 | | |
| Open Holes: | Bbls/Lin. ft. .0602 | Lin. ft./Bbl. 16.5993 | | |
| Drill Pipe: | Bbls/Lin. ft. .0142 | Lin. ft./Bbl. 70.32 | | |
| Annulus: | Bbls/Lin. ft. | Lin. ft./Bbl. | | |
| 4½x7 7/8 | Bbls/Lin. ft. .0406 | Lin. ft./Bbl. 24.6474 | | |

Perforations: From ft. to ft. Amt.

CEMENT DATA:

Spacer Type: 500 Gallon mud Sweep

Amt. Sks Yield ft³/sk Density PPG

LEAD: Pump Time hrs. Type ASC

Excess

Amt. 200 Sks Yield 1.42 ft³/sk Density 15.0 PPG

TAIL: Pump Time hrs. Type

Excess

Amt. Sks Yield ft³/sk Density PPG

WATER: Lead 6.57 gals/sk Tail gals/sk Total 31½ Bbls.

Pump Trucks Used #233 - Carl Balding

Bulk Equip. #256 - Max Wolf

Float Equip: Manufacturer Weatherford

Shoe: Type Reg. Guide Shoe Depth 5584.87

Float: Type AFU Insert Depth 5547.43

Centralizers: Quantity 6 Plugs Top 1 Btm.

Stage Collars

Special Equip. Thread-lok

Disp. Fluid Type Fresh H2O Amt. 91½ Bbls. Weight 8.34 PPG

Mud Type Chemical Weight 9.1 PPG

COMPANY REPRESENTATIVE Jack Minkley

CEMENTER Sally Dreiling

| TIME AM/PM | PRESSURES PSI: DRILL PIPE/CASING | PRESSURES PSI: ANNULUS | FLUID PUMPED DATA: TOTAL FLUID | FLUID PUMPED DATA: Pumped Per Time Period | FLUID PUMPED DATA: RATE Bbls Min. | REMARKS |
|---|---|---|---|---|---|---|
| 8:25 | 300 | | | 30 | | Rig up and hold Safety meeting |
| 8:30 | | | | | | Pipe on Bottom, Circ w/ mud Pump |
| 9:15 | 400 | | 12 | 3 | 4 | Rig up to Cement Pump. |
| | | | | | | Start mud Sweep. |
| | | | | | | mud Sweep In. |
| | | | | | | Start Cement, Cement w/ 200 sks. |
| 9:21 | 350 | | 50 | 10 | 5 | ASC w/ 5# Kol-Seal Per sk. |
| 9:32 | | | | | | Cement In. |
| | | | | | | Stop Pumps. |
| 9:33 | 50 | | 8 | 2 | 4 | Wash out Pump and lines |
| | | | | | | Release Plug |
| 9:34 | 200 | | 10 | 2 | 5 | Start Fresh H2O Displace |
| 9:36 | 250 | | 15 | 1 | 5 | Steady PSI |
| 9:39 | 250 | | 26 | 3 | 5 | mud sweep at Shoe |
| 9:42 | 250 | | 38 | 4 | 5 | Lead at Shoe Cement |
| 9:49 | 350 | | 68 | 7 | 5 | PSI Increase |
| 9:51 | 600 | | 83 | 3 | 3 | Steady rate + PSI |
| 9:52 | 600 | | 85 | 1 | 3 | Decrease rate |
| 9:59 | 1500 | | 91½ | 3 | 2 | Bump Plug |
| | | | | | | Stop Pumps |
| | | | | | | Release PSI |
| | | | | | | Float Held |

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CONSERVATION DIVISION
Wichita, Kansas

FINAL DISP. PRESS: 600 PSI BUMP PLUG TO 1500 PSI BLEEDBACK 1/4 BBLS.

THANK YOU

Allied Printing, Inc., Pratt, KS

**Precision** Well Testing
P.O. Box 1843
Liberal, Kansas 67905-1843
Phone: 316-624-4505
Mobile: 316-624-6258 Unit 9390

ORIGINAL

Producer P & M PETROLEUM MANAGEMENT INC
Well Name S. W. COLLEGE #3
Location 990FNL&990FWL 19-31S-31W
County SEWARD State KS

Csg 4 1/2 Wt 10.5 Set @ 5583 TD 5585 PB 5531 GL
Tbg 2 3/8 Wt 4.7 Set @ 5461 SN Pkr KB
Perfs. 5462 to 5475 to to to
Prover 2" Meter Taps Orifice Pcr Tcr
Gg .671 API @ GM Reservoir MORROW

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APR 12 1993
CONSERVATION DIVISION
Wichita, Kansas

Type Test: Initial Special Annual Retest Sampling Date 2-2-93
Remarks Pertinent to Test Data Quality

| Date Time of Reading | Elap Time Hours | Wellhead Pressure Data | | | | | | Measurement Data | | | | Liquids | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Csg Psig | ΔP Csg | Tbg Psig | ΔP Tbg | BHP Psig | ΔP BHP | Press. Psig | Diff. | Temp | Q mcf/D | Cond bbls | Water bbls | |
| THURSDAY 1-28-93 | | | | | | | | | | | | | | |
| 1000 | | WELL SHUT-IN. | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| TUESDAY 2-2-93 | | | | | | | | | | | | | | |
| 0800 | 118.0 | 1139 | | 1136 | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| 0800 | | WELL ON 1ST RATE OF MULTI-PT. TEST THROUGH 2" C.F. PROVER AND 5/32" PLATE INSTALLED DIRECTLY OFF WELLHEAD. | | | | | | | | | | | | |
| 0805 | | 1126 | -13 | 1125 | -11 | | | 1125 | | 54 | 655 | | | |
| 0810 | | 1124 | -2 | 1114 | -11 | | | 1114 | | 54 | 648 | | | |
| 0815 | | 1123 | -1 | 1110 | -4 | | | 1110 | | 54 | 646 | | | |
| 0830 | .5 | 1120 | -3 | 1107 | -3 | | | 1107 | | 54 | 644 | | | |
| 0845 | | 1120 | 0 | 1099 | -8 | | | 1099 | | 54 | 639 | | | |
| 0900 | 1.0 | 1119 | -1 | 1099 | 0 | | | 1099 | | 54 | 639 | 0 | 0 | |
| | | | | | | | | | | | | | | |
| 0900 | | WELL ON 2ND RATE OF MULTI-PT. TEST THROUGH 2" C.F. PROVER AND 7/32" PLATE INSTALLED DIRECTLY OFF WELLHEAD. | | | | | | | | | | | | |
| 0905 | | 1112 | -7 | 1090 | -9 | | | 1090 | | 58 | 1305 | | | |
| 0910 | | 1109 | -3 | 1065 | -15 | | | 1065 | | 60 | 1276 | | | |
| 0915 | | 1107 | -2 | 1059 | -6 | | | 1059 | | 61 | 1269 | | | |
| 0930 | 1.5 | 1105 | -2 | 1047 | -12 | | | 1047 | | 62 | 1254 | | | |
| 0945 | | 1105 | 0 | 1047 | 0 | | | 1047 | | 62 | 1254 | | | |
| 1000 | 2.0 | 1104 | -1 | 1046 | -1 | | | 1046 | | 62 | 1253 | 0 | 0 | |
| | | | | | | | | | | | | | | |
| 1000 | | WELL ON 3RD RATE OF MULTI-PT. TEST THROUGH 2" C.F. PROVER AND 5/16" PLATE INSTALLED DIRECLTY OFF WELLHEAD. | | | | | | | | | | | | |
| 1005 | | 1081 | -23 | 955 | -91 | | | 955 | | 62 | 2373 | | | |

*Precision* Well Testing P & M PETROLEUM MANAGEMENT INC - S. W. COLLEGE #3

| Date Time of Reading | Elap Time Hours | Wellhead Pressure Data | | | | | | Measurement Data | | | | Liquids | | Type Test: Initial ____ Special ____ Ending Annual Retest Date 2-2-93 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Csg Psig | ΔP Csg | Tbg Psig | ΔP Tbg | BHP Psig | ΔP BHP | Press. Psig | Diff. | Temp | Q mcf/D | Cond bbls | Water bbls | Remarks Pertinent to Test Data Quality |
| TUESDAY 2-5-93 | (CONTD) | | | | | | | | | | | | | |
| 1010 | | 1074 | -7 | 941 | -13 | | | 941 | | 65 | 2201 | | | |
| 1015 | | 1067 | -7 | 933 | -8 | | | 933 | | 66 | 2183 | | | |
| 1030 | 2.5 | 1059 | -8 | 931 | -2 | | | 931 | | 66 | 2178 | | | |
| 1045 | | 1057 | -2 | 927 | -4 | | | 927 | | 66 | 2169 | | | |
| 1100 | 3.0 | 1052 | -5 | 924 | -3 | | | 024 | | 66 | 2162 | 0 | 0 | |
| | | | | | | | | | | | | | | |
| 1100 | | WELL ON 4TH RATE OF MULTI-PT. TEST THROUGH 2" C.F. PROVER AND 7/16" PLATE INSTALLED DIRECTLY OFF WELLHEAD. | | | | | | | | | | | | |
| 1105 | | 1016 | -36 | 813 | -111 | | | 814 | | 68 | 3812 | | | |
| 1110 | | 1007 | -9 | 802 | -11 | | | 802 | | 68 | 3762 | | | |
| 1115 | | 1001 | -6 | 798 | -4 | | | 798 | | 68 | 3744 | | | |
| 1130 | 3.5 | 995 | -6 | 796 | -2 | | | 796 | | 68 | 3735 | | | |
| 1145 | | 981 | -14 | 788 | -8 | | | 788 | | 68 | 3698 | | | |
| 1200 | 4.0 | 969 | -12 | 783 | -5 | | | 783 | | 68 | 3676 | 0 | 0 | OBTAIN GAS SAMPLE. SHUT WELL-IN. |
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