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KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
September 1999
Form Must Be Typed

ORIGINAL

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License # 32429

Name: CRAWFORD OIL & GAS, INC.

Address: P. O. Box 51

City/State/Zip: Coldwater, Kansas 67029-0051

Purchaser: POST ROCK

Operator Contact Person: MARK PINNICK

Phone: (316) 582-2612

Contractor: Name: DUKE DRILLING CO., INC.

License: 5929

Wellsite Geologist: Jon D. Christensen

Designate Type of Completion:

New Well Re-Entry Workover

Oil SWD SLOW Temp. Abd.

Gas ENHR SIGW

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

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to Enhr./SWD

Plug Back Plug Back Total Depth

Commingled Docket No. _____

Dual Completion Docket No. _____

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

01-24-00 02-08-00 5-18-00

Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

API No. 15 - 033-21048 0000

County: Comanche

C SW SW Sec. 29 Twp. 33 S. R. 19 East West

660 feet from (S) / N (circle one) Line of Section

660 feet from E / (W) (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:

(circle one) NE SE NW (SW)

Operator Name: Christopher Well #: 1

Geologist Name: _____

Producing Formation: MISSISSIPPIAN

Elevation: Ground: 1887' Kelly Bushing: 1895'

Total Depth: 6180' Plug Back Total Depth: 5350'

Amount of Surface Pipe Set and Cemented at 728 Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set _____ Feet

If Alternate II completion, cement circulated from 5350'

feet depth to 4370' w/ _____ sx cmt.

Drilling Fluid Management Plan AH-1, 7-3-00 UIC
(Data must be collected from the Reserve Pit)

Chloride content 33,000 ppm Fluid volume 600 bbls

Dewatering method used haul off

Location of fluid disposal if hauled offsite:

Operator Name: GORDON KEANE

Lease Name: HARMON License No.: 5993

Quarter NW Sec. 11 Twp. 33 S. R. 20 East West

County: Comanche Docket No.: 22304

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, 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 of 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 fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature: Mark Pinnick

Title: SUPT. OF OPERATIONS Date: 5-23-00

Subscribed and sworn to before me this 23 day of May

102,000
Notary Public: Pamela Price

Date Commission Expires: 2-29-00



KCC Office Use ONLY

Letter of Confidentiality Attached

If Denied, Yes Date: _____

Wireline Log Received

Geologist Report Received

UIC Distribution

KCC

X

Operator Name: CRAWFORD OIL & GAS, INC. Lease Name: CHRISTOPHER Well #: 1
 Sec. 29 Twp. 33 S. R. 19 East West County: Comanche

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems 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 test, along with final chart(s). Attach extra sheet if more space is needed. Attach copy of all Electric Wireline Logs surveyed. Attach final geological well site report.

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)

Log Formation (Top), Depth and Datum Sample
 Name Top Datum

See attached.

List All E. Logs Run: *Dual Induction, Dual Comp. Porosity, Microresistivity.*

| CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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 | # Sacs Used | Type and Percent Additives |
| Conductor | | 20" | | 40' | 1-SK Grout | | |
| Surface | 12-1/4" | 8-5/8" | 24# | 728' | Lite | 375 | 2%gel, 3%cc |
| Production | 7-7/8" | 4-1/2" | 10/5# | 5481' | Class A | 95 | 2%cc, 5#gil. 1/4#Flo, 1/4#Fl |

| ADDITIONAL CEMENTING / SQUEEZE RECORD Loss | | | | |
|---|------------------|----------------|-------------|----------------------------|
| 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 checked="" type="checkbox"/> Plug Off Zone | 5350/5398 | Common | 50 | 10% SALT |

| 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 SH/FT | 5232-5240 / 5272-5274 / 5284-5286 / 5288-5290 | 1000 gal. acid, 150sk SAND 400 Bbls H ₂ O TOTAL CO ₂ | |

| TUBING RECORD | | Size | Set At | Packer At | Liner Run |
|---|-----------|--|-------------|---------------|---|
| | | 2 3/8" | 5194 | NO | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Date of First, Resumed Production, SWD or Enhr. | | Producing Method <input checked="" type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) | | | |
| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
| | | 200 Mcf | 10 Bbls. | | |

Disposition of Gas Vented Sold Used on Lease (If vented, Sumit ACO-18.)
 METHOD OF COMPLETION Open Hole Perfor. Daily Comp. Commingled Other (Specify)

JON D. CHRISTENSEN
 Consulting Geologist
 100 S. Main, Suite 200
 Wichita, KS 67202

GEOLOGIC
 REPORT
 LOG

API # 15-033-21048-0000

COMPANY CRAWFORD
 OIL & GAS ENERGIES
 WELL # 1 CHRISTOPHER
 FIELD COLLIER FLATS EAST
 LOCATION C. SWSW
 SEC. 29 TWP. 33S RGE. 19W
 COUNTY COMANCHE
 STATE KANSAS

R 19 W
 T 33 S

29

+

MISS. MARM. L/KC.

KB 1895'
 DF _____
 GL 1887'

RECEIVED
 STATE CORPORATION COMMISSION
 MAY 2 2000
 CONSERVATION DIVISION
 WICHITA, KANSAS

Drilling Measured From: KB
 Samples Saved From: 3500' To: 6180'
 Drilling Time From: 3500' To: 6180'
 Samples Examined From: 3500' To: 6180'
 Geological Supervision From: 3570' To Total Depth
 Wellsite Geologist: JON CHRISTENSEN
 Electrical Survey: LOG TECH:
DIL & FDC/CNL w/CAL,
MICROLOG

OPERATOR CRAWFORD OIL & GAS
 CONTRACTOR DUKE DRILG. CO. RIG #1
 COM: 1/24/2000 COMP: 2/18/2000
 CASING RECORD
 40' OF 20" C&D.
 SURF: 858' & 728' w/ PROD: New 4 1/2"
 TOTAL DEPTH DRILLERS: 3005K. 6180'
 TOTAL DEPTH LOG: 6184'

FORMATION TOPS AND STRUCTURAL POSITION

| FORMATION | SAMPLE TOP | ELECTRIC LOG TOP | SUB-SEA DATUM | STRUCTURAL POSITION |
|------------------|------------|------------------|---------------|---------------------|
| HEEBNER SH. | 4255' | 4258 | -2363 | +17' |
| LANSING | 4455' | 4438 | -2543 | +36' |
| DRUM | 4689' | 4690 | -2195 | +19' |
| STARK SH. | 4812' | 4814 | -2919 | +3' |
| SWOPE | 4833' | 4843 | -2948 | -4' |
| BASE KANSAS CITY | 4938' | 4945 | -3050 | +16' |
| MARMATON | 4978' | 4978 | -3083 | +19' |
| NOVINGER/ALAMONT | 5026' | 5029 | -3134 | +19' |
| PAWNEE | 5073' | 5074 | -3179 | +19' |
| CHEROKEE SH. | 5120' | 5122 | -3227 | +13' |
| DETRITAL MISS. | 5229' | 5230 | -3335 | +29' |
| MISSISSIPPI | 5239' | 5241 | -3346 | +28' |
| COWLEY | 5699' | 5693 | -3798 | NDE |
| VIOLA | 6103' | 6105 | -4210 | NDE |

REFERENCE WELL FOR STRUCTURE BOW VALLEY #1-32
MOFFETT: W/2 NW NE SEC. 32-T33S-R19W,
COMANCHE CO., KANSAS

ALLIED CEMENTING CO., INC.

Federal Tax I.D.# 48-0727860

1178
ORIGINAL

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:

Mercury Lodge

| | | | | | | | |
|-------------------------|----------------|-----------------|---|----------------------------|----------------------------|--------------------------|---------------------------|
| DATE <u>1-25-00</u> | SEC. <u>29</u> | TWP. <u>33S</u> | RANGE <u>19W</u> | CALLED OUT <u>11:00 am</u> | ON LOCATION <u>9:00 AM</u> | JOB START <u>6:00 AM</u> | JOB FINISH <u>9:15 AM</u> |
| LEASE <u>Mercury</u> | | WELL# <u>1</u> | LOCATION <u>N 1/4 174 on 160' 35' 2" W.</u> | | COUNTY <u>Denkiche</u> | STATE <u>KS.</u> | |
| OLD OR NEW (Circle one) | | | <u>5/5</u> | | | | |

CONTRACTOR Duke #1

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 729

CASING SIZE 8 7/8 x 24 DEPTH 729

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX 350 MINIMUM _____

MEAS. LINE _____ SHOE JOINT 44.52

CEMENT LEFT IN CSG. _____

PERFS. _____

OWNER Crawford Oil & Gas Services

CEMENT

AMOUNT ORDERED _____

275 sx 6:35:6 + 3% cc + 1/4 flo-seal

207 sx Class A + 3% cc + 2% gel

COMMON _____ @ _____

POZMIX _____ @ _____

GEL _____ @ _____

CHLORIDE _____ @ _____

RECEIVED
STATE CORPORATION COMMISSION
MAY 25 2000
CONSERVATION DIVISION
Wichita, Kansas

DISPLACEMENT 46 Fals freshwater

EQUIPMENT

PUMP TRUCK CEMENTER Carl Baldwin

552 HELPER Mike Winger

BULK TRUCK

240-280 DRIVER David West

BULK TRUCK

_____ DRIVER _____

HANDLING _____ @ _____

MILEAGE _____ @ _____

TOTAL _____

REMARKS:

SERVICE

Pipe on bottom + pump pipe cap.
Dump 275 sx 6:35:6 + 3% cc + 1/4 flo-seal
sum 100 sx A + 3% cc + 2% gel
Switch valves + Release plug.
Displace with 46 Fals freshwater.
Shot on casing. Cement did not circulate.
To cut with 100 sx A + 2, cement in all.

DEPTH OF JOB 729

PUMP TRUCK CHARGE _____

EXTRA FOOTAGE _____ @ _____

MILEAGE _____ @ _____

PLUG Rubber @ _____

_____ @ _____

_____ @ _____

Duke Drilling Co.

TOTAL _____

CHARGE TO ~~Mercury~~

STREET _____

CITY _____ STATE _____ ZIP _____

FLOAT EQUIPMENT

1 Tattle plate @ _____

2 Baskets @ _____

2 Centralizers @ _____

_____ @ _____

_____ @ _____

TOTAL _____

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-is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

TAX _____

TOTAL CHARGE _____

DISCOUNT _____ IF PAID IN 30 DAYS

SIGNATURE Mike Godfrey

MIKE Godfrey
PRINTED NAME

GENERAL TERMS AND CONDITIONS

DEFINITIONS: In these terms and conditions, "Allied" shall mean Allied Cementing Co., Inc., and "Customer" shall refer to the party identified by that term on the front of this contract. As applicable, "Job" relates to the services described on the front side of this contract, "merchandise" refers to the material described on the front of this contract and to any other materials, products, or supplies used, sold, or furnished under the requirements of this contract.

—**TERMS:** Unless satisfactory credit has been established, "CUSTOMER" must tender full cash payment to "ALLIED" before the job is undertaken or merchandise is delivered. If satisfactory credit has been established, the terms of payment for the job and/or merchandise, including bulk cement, are net cash, payable in 30 days from the completion of the job and/or delivery of the merchandise. For all past due invoices, "CUSTOMER" agrees to pay interest on the amounts invoiced at a rate of 18 percent per annum until paid. Notwithstanding the foregoing, in no event shall this Contract provide for interest exceeding the maximum rate of interest that "CUSTOMER" may agree to pay under applicable law. If any such interest should be provided for, it shall be and hereby is deemed to be a mistake, and this contract shall be automatically reformed to lower the rate of interest to the maximum legal contract rate, any amounts previously paid as excess interest shall be deducted from the amounts owing from the "CUSTOMER" or at the option of "ALLIED," refunded directly to "CUSTOMER." For purposes of this paragraph, ALLIED and CUSTOMER agree that KANSAS law shall apply. Any discounts granted with this contract are null and void if the charges are not paid when due.

—**ATTORNEY FEES:** In any legal action or proceeding between the parties to enforce any of the terms of this Service Contract, or in any way pertaining to the terms of this Contract, the prevailing party shall be entitled to recover all expenses, including, but not limited to, a reasonable sum as and for attorney's fees.

—**PRICES AND TAXES:** All merchandise listed in "ALLIED'S" current price schedule are F.O.B. ALLIED'S local station and are subject to change without notice. All prices are exclusive of any federal, state, local, or special taxes for the sale or use of the merchandise or services listed. The amount of taxes required to be paid by ALLIED shall be added to the quoted prices charged to CUSTOMER.

—**TOWING CHARGES:** ALLIED will make a reasonable attempt to get to and from each job site using its own equipment. Should ALLIED be unable to do so because of poor or inadequate road conditions, and should it become necessary to employ a tractor or other pulling equipment to get to or from the job site, the tractor or pulling equipment will be supplied by CUSTOMER or, if furnished by ALLIED, will be charged to and paid by CUSTOMER.

—**PREPARATION CHARGES:** If a job and/or merchandise is ordered and CUSTOMER cancels the order after preparation of a chemical solution or other material, CUSTOMER will pay ALLIED for the expenses incurred by ALLIED as a result of the cancellation.

—**DEADHAUL, CHARGES:** Unless otherwise specified on the front of this Contract, a deadhaul charge as set forth in ALLIED'S current price book will be charged each way for each service unit which is ordered by CUSTOMER but not used.

—**SERVICE CONDITIONS AND LIABILITIES:** 1. ALLIED carries public liability and property damage insurance, but since there are so many uncertain and unknown conditions beyond ALLIED'S control, ALLIED shall not be liable for injuries to property or persons or for loss or damage arising from the performance of the job or delivery of the merchandise. Customer shall be responsible for and indemnify, defend, and hold harmless ALLIED, its officers, agents and employees, from and against any and all claims or suits for:

(A) Damage to property or for bodily injury, sickness, disease, or death, brought by any person, including CUSTOMER and/or the well owner; and:

(B) Oil spills, pollution, surface or sub-surface damage, injury to the well, reservoir loss, or damage arising from a well blowout arising out of or in connection with ALLIED'S performance of the job or furnishing of merchandise in accordance with this contract, unless such loss or damage is caused by the willful misconduct or gross negligence of ALLIED or its employees.

2. With respect to any of ALLIED'S tools, equipment, or instruments which are lost in the well or damaged when performing or attempting to perform the job or, in the case of marine operations, are lost or damaged at any time after delivery to the landing for CUSTOMER and before return to ALLIED at the landing, CUSTOMER shall either recover the lost item without cost to ALLIED or reimburse ALLIED the current replacement cost of the item unless the loss or damage results from the sole negligence of ALLIED or its employees.

3. ALLIED does not assume any liability or responsibility for damages or conditions resulting from chemical action in cements caused by contamination of water or other fluids.

WARRANTIES: 1. ALLIED warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. ALLIED'S obligation under this warranty is expressly limited to repair, replacement, or allowance for credit, at its option, for any merchandise which is determined by ALLIED to be defective. THIS IS THE SOLE WARRANTY OF ALLIED AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and ALLIED shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

2. More specifically:

(A) Nothing in this contract shall be construed as a warranty by ALLIED of the success or the effectiveness of the result of any work done or merchandise used, sold, or furnished under this contract.

(B) Nothing in this contract shall be construed as a warranty of the accuracy or correctness of any facts, information, or data furnished by ALLIED or any interpretation of tests, meter readings, chart information, analysis of research, or recommendations made by ALLIED, unless the inaccuracy or incorrectness is caused by the wilful misconduct or gross negligence of ALLIED or its employees in the preparation or furnishing of such facts, information or data.

(C) Work done by ALLIED shall be under the direct supervision and control of the CUSTOMER or his agent and ALLIED will accomplish the job as an independent contractor and not as an employee or agent of the CUSTOMER.

15-033-21048-0000



CEMENTING LOG

ORIGINAL

STAGE NO.

Date 1-23-00 District W-2-2000 Ticket No. 1178
 Company ... Rig ...
 Lease ... Well No. ...
 County ... State ...
 Location 114-124-100 30 Field 24-35-140

CASING DATA: PTA Squeeze
 Surface Intermediate Production Liner
 Size 4 1/2 Type ... Weight 24 Collar ...

Casing Depths: Top 110 Bottom 729

Drill Pipe: Size 4 1/2 Weight 160 Collars ...
 Open Hole: Size ... T.D. 200 ft. P.B. to ... ft.

CAPACITY FACTORS:
 Casing: Bbls/Lin. ft. 113 Lin. ft./Bbl. 1.00
 Open Holes: Bbls/Lin. ft. ... Lin. ft./Bbl. ...
 Drill Pipe: Bbls/Lin. ft. ... Lin. ft./Bbl. ...
 Annulus: Bbls/Lin. ft. 13.60 Lin. ft./Bbl. 1.5
 Bbls/Lin. ft. 4177 Lin. ft./Bbl. ...
 Perforations: From ... ft. to ... ft. Amt. ...

CEMENT DATA:
 Spacer Type: ...
 Amt. ... Skys Yield ... ft³/sk Density ... PPG

LEAD: Pump Time ... hrs. Type ...
 Amt. ... Skys Yield 197 ft³/sk Density 12.5 PPG

TAIL: Pump Time ... hrs. Type ...
 Amt. ... Skys Yield ... ft³/sk Density ... PPG

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

Pump Trucks Used ...
 Bulk Equip. 240-250

Floater Equip: Manufacturer ...
 Shoe: Type ... Depth ...
 Floater Type Raft Depth 684
 Centralizers: Quantity ... Plugs Top 1110 Btm. ...
 Stage Collars ...
 Special Equip. 2-1/2" keels
 Disp. Fluid Type ... Amt. 41 Bbls. Weight ... PPG
 Mud Type ... Weight ... PPG

COMPANY REPRESENTATIVE Mike Cobble

CEMENTER Paul Taldine

| TIME | PRESSURES PSI | | FLUID PUMPED DATA | | | REMARKS |
|------|-------------------|---------|-------------------|------------------------|----------------|----------------------------------|
| | DRILL PIPE CASING | ANNULUS | TOTAL FLUID | Pumped Per Time Period | RATE Bbls Min. | |
| 1:00 | | | | | | on location |
| 1:05 | | | | | | pipe in bottom annulus pipe (A2) |
| 1:10 | 200 | | 96 | 41 | 7 | mix + pump 25 sks total cement |
| 1:15 | 200 | | 170 | 34 | 5 | annulus 110 ft tail cement |
| 1:20 | | | | | | centralizer stop pumps |
| 1:25 | | | | | | swirl valves + blowdown plug |
| 1:30 | | | | | 4 1/2 | start displacement |
| 1:35 | | | | | 4 1/2 | stand pipe |
| 1:40 | | | 116 | 46 | - | displacement in |
| 1:45 | | | | | | annulus + 110 ft |
| 1:50 | | | | | | annulus + did not circulate |
| 2:00 | | | 176 | 10 | 46 | + |
| 2:05 | | | | | | annulus with 55 sks A3+2 |
| 2:10 | | | 159 | 13 | | annulus + 110 ft surface |