KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-
September 199
Form Must Be Type

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

ORIGINAL

Operator: License # 32429
Name: CRAWFORD OIL & GAS, INC.
Address: PO Box 51
City/State/Zip: Coldwater, Ks. 67029
Purchaser: ~~PRG~~ Post Rock Gas
Operator Contact Person: CM Crawford
Phone: (316) 582-2612
Contractor: Name: DUKE DRILLING CO, INC.
License: 5929
Wellsite Geologist: Jon Christensen

RECEIVED
STATE CORPORATION COMMISSION
SEP 22 2000
9-22-00
CONSERVATION DIVISION
Wichita, Kansas

Designate Type of Completion:
X New Well ____ Re-Entry ____ Workover
____ Oil ____ SWD ____ SIOW ____ Temp. Abd.
XXX 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. ____

6-6-00	6-25-00	7-1-00
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 033-21093-0000
County: Comanche
NE NE NW Sec. 9 Twp. 34 S. R. 18 ☐ East ☒ West
330 feet from S / (N) (circle one) Line of Section
1650 feet from E / (W) (circle one) Line of Section
Footages Calculated from Nearest Outside Section Corner:
(circle one) NE SE (NW) SW
Lease Name: Cole Well #: 2
Field Name: Buttermilk East
Producing Formation: Mississippian
Elevation: Ground: 1872 Kelly Bushing: 1880
Total Depth: 6100 Plug Back Total Depth: 5420
Amount of Surface Pipe Set and Cemented at 628' Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☒ No
If yes, show depth set ____ Fee
If Alternate II completion, cement circulated from ____
feet depth to ____ w/ ____ sx cmt.

Drilling Fluid Management Plan ALT 1 JH 8/6/01
(Data must be collected from the Reserve Pit)
Chloride content 28,000 ppm Fluid volume 500 bbls
Dewatering method used Hauled 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: [signature]
Title: President Date: 9-20-00
Subscribed and sworn to before me this 20th day of September, 2000.
NOTARY PUBLIC - State of Kansas
PAMELA PRICE
My Appt. Exp. 2-29-00
Notary Public: Pamela Price
Date Commission Expires: Feb. 29, 2004

KCC Office Use ONLY
____ Letter of Confidentiality Attached
✓ If Denied, Yes ☐ Date: ____
✓ Wireline Log Received
✓ Geologist Report Received
____ UIC Distribution
KCC

Side Two

Operator Name: CRAWFORD OIL & GAS, INC. Lease Name: Cole Well #: 2

Sec. 9 Twp. 34 S. R. 18 ☐ 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 (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:

Neutron Microlog
High Resolution Induction
Cement Bond

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

Name	Top	Datum
HEEBNER	4313	
LANSING	4508	
STARK SH	4868	
SWOPE	4882	
BASE KC	5023	
MARMATON	5030	
ALTAMONT	5090	
PAWNEE	5133	
CHEROKEE SH.	5176	
MISSISSIPPI	5282	
VIOLA	5975	

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	# Sacjs Used	Type and Percent Additives
Conductor		20"		80'	10 sk grout		
Surface	12¼	8 5/8"	24#	628'	Class A 35/65 Pozmix 100	225	3%cc ¼#Flo
Production	7 7/8"	4½"	10.5#	5478'	Prem.	195	5%Kals,10% sa 5# gil.

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
6 SPF	5318-24 5344-52	N2 Foam 344 sk sand N2 900,000	
		800 Bbl. wtr, 1500 gal 15% acid	

TUBING RECORD	Size	Set At	Packer At	Liner Run
	2 3/8"	5240	na	☐ Yes ☒ No

Date of First, Resumerd Production, SWD or Enhr.	Producing Method
8-22-00	☒ Flowing ☐ Pumping ☐ Gas Lift ☐ Other (Explain)

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	0	100	20		

Disposition of Gas METHOD OF COMPLETION

Production Interval 5318'-5324' + 5344'-5352'

☐ Vented ☒ Sold ☐ Used on Lease (If vented, Sumit ACO-18.)

☐ Open Hole ☒ Perf. ☐ Dually Comp. ☐ Commingled

☐ Other (Specify)

HALLIBURTON

JOB SUMMARY

ORDER NO. 70006

TICKET #	TICKET DATE
718593	6-26-00

ORIGINAL

REGION	NWA/COUNTRY	BDA / STATE	COUNTY
North America	USA	KS.	Cowley

MBU ID / EMP #	EMPLOYEE NAME	PSL DEPARTMENT
MCLB103 106304	Tyce Mauk.	ZI

LOCATION	COMPANY	CUSTOMER REP / PHONE
Winfield KS.	Crawford Oil & Gas.	Eugene Yarbrough

TICKET AMOUNT	WELL TYPE	API / UWI #
	02	15-035-21093

WELL LOCATION	DEPARTMENT	JOB PURPOSE CODE
Land E. Butterfield.	ZI	035

LEASE / WELL #	SEC / TWP / RNG
Colp. #2	9-34-18

HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS
T. Maul 106304							
S. Empi 106099							
K. Gallenger 106944							

HES UNIT NUMBERS	R/T MILES	HES UNIT NUMBERS	R/T MILES	HES UNIT NUMBERS	R/T MILES	HES UNIT NUMBERS	R/T MILES
54218-78702	120						
54029-6612	100						

Form Name _____ Type: _____
Form Thickness _____ From _____ To _____
Packer Type _____ Set At _____
Bottom Hole Temp. _____ Pressure _____
Misc. Data _____ Total Depth _____

	CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE	6-26-00	6-26-00	6-27-00	6-27-00
TIME	1630	1930	0330	0430

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY	MAKE
Float Collar		H
Float Shoe		
Guide Shoe Kes 4½	1	O
Centralizers Sw "	6	
Bottom Plug-L.D. Baffle "	1	W
Top Plug 3W L.D. "	1	
Head P.C. "	1	C
Packer-Clamp "	1	
Other Basket "	1	O

WELL DATA

	NEW/USED	WEIGHT	SIZE	FROM	TO	MAX ALLOW
Casing	N		4½	KB	5478	
Liner						
Liner						
Tbg/D.P.						
Tbg/D.P.						
Open Hole						SHOTS/FT.
Perforations						
Perforations						
Perforations						

MATERIALS

Treat Fluid _____ Density _____ Lb/Gal
Disp. Fluid _____ Density _____ Lb/Gal
Prop. Type _____ Size _____ Lb. _____
Prop. Type _____ Size _____ Lb. _____
Acid Type _____ Gal. _____ % _____
Acid Type _____ Gal. _____ % _____
Surfactant _____ Gal. _____ In _____
NE Agent _____ Gal. _____ In _____
Fluid Loss _____ Gal/Lb _____ In _____
Gelling Agent _____ Gal/Lb _____ In _____
Fric. Red. _____ Gal/Lb _____ In _____
Breaker _____ Gal/Lb _____ In _____
Blocking Agent _____ Gal/Lb _____
Perfpac Balls _____ Qty. _____
Other _____
Other _____
Other _____
Other _____

HOURS ON LOCATION

DATE	HOURS
TOTAL	

OPERATING HOURS

DATE	HOURS
TOTAL	

DESCRIPTION OF JOB

CMT
4½
L.D

HYDRAULIC HORSEPOWER
ORDERED _____ Avail. _____ Used _____

AVERAGE RATES IN BPM
TREATED _____ Disp. _____ Overall _____

CEMENT LEFT IN PIPE
FEET 43 Reason S.J

CEMENT DATA

STAGE	SACKS	CEMENT	BULK/SKS	ADDITIVES	YIELD	LBS/GAL
1	195	PPM	B.	5% Calseal, 10% Salt, .75% Halad 322, 5# Gilsonite	1.29	15.6
1	25	"	"	" Pmp Rat Hole	"	"

Circulating _____ Displacement _____
Breakdown _____ Maximum _____
Average _____ Frac Gradient _____
Shut In: Instant _____ 5 Min _____ 15 Min _____

Preflush: Gal - BBL 12 Type Sugar Water
Load & Bkdn: Gal - BBL _____ Pad: BBL - Gal _____
Treatment Gal - BBL _____ Disp: BBL Gal 86.4
Cement Slurr Gal - BBL 45 6 Bbl Returns
Total Volume Gal - BBL _____

Frac Ring #1	Frac Ring #2	Frac Ring #3	Frac Ring #4

THE INFORMATION STATED HEREIN IS CORRECT

CUSTOMER'S REPRESENTATIVE SIGNATURE Eugene Yarbrough

4239-1

HALLIBURTON

JOB LOG

ORDER NO. 70006

REGION: North America	NWA/COUNTRY:	BDA / STATE:	COUNTY:
MBU ID / EMP #:	EMPLOYEE NAME:	PSL DEPARTMENT:	ORIGINAL
LOCATION:	COMPANY:	CUSTOMER REP / PHONE: Eugene yarbrough	
TICKET AMOUNT:	WELL TYPE:	API / UWI #:	
WELL LOCATION:	DEPARTMENT:	JOB PURPOSE CODE:	
LEASE / WELL #:	SEC / TWP / RNG:		

TICKET #: | TICKET DATE:

HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL)(GAL)	PUMPS T	PUMPS C	PRESS. (psi) Tbg	PRESS. (psi) Csg	JOB DESCRIPTION / REMARKS
	1630							called out for job.
	1930							on loc. rig up.
2200	~~2200~~							out of hole w/rig rig up cmters.
	2240							Start 4½ csg & F.E.
	006							Brk circ
	040							run csg.
	0144							csg on btm hook up 4½ psi. & circ iron.
	0151							brk circ w/rig
	0152							circ to pit
	0332							Thru circ hook iron to pit
	0335						2500	psi test iron
	0337	6.0	12		✓		300	Pump mud flush & shut down.
	0345		6					Plug. Kat & mouse hole.
	0353	6.5	45		✓		320	Pump 195sx prem at 15.6#
	0404	0			✓		0	Shut down drop plug & wash up
	0408	7.0	86.5		✓		100	Pump disp
	0417	7.0	86.5		✓		250	25 bbls in lift cmt
	0421	2.0	86.5		✓		500	82 bbls in slo rate.
	0423	2.0	86.5		✓		500/1450	land plug.
	0426	0	86.5				1450/0	release. Float - HELD
	0430							Job over
								Thanks for calling. HES.
								Mike Cook Crew

ALLIED CEMENTING CO., INC.

CEMENTING LOG

STAGE NO.

ORIGINAL

Date 6-6-00 District Medicine Lodge Ticket No. 4407
Company Duke Rig Duke #4
Lease Cole Well No. 2
County Comanche State KS
Location Buttermilk 2.5 S/S Field 9-34s-18w

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

Casing Depths: Top KB Bottom 138

Drill Pipe: Size Weight Collars
Open Hole: Size 12 1/4 T.D. 138 ft. P.B. to ft.

CAPACITY FACTORS:
Casing: Bbls/Lin. ft. .0637 Lin. ft./Bbl. 15.70
Open Holes: Bbls/Lin. ft. Lin. ft./Bbl.
Drill Pipe: Bbls/Lin. ft. Lin. ft./Bbl.
Annulus: Bbls/Lin. ft. .0735 Lin. ft./Bbl. 13.60
Bbls/Lin. ft. Lin. ft./Bbl.
Perforations: From ft. to ft. Amt.

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

LEAD: Pump Time hrs. Type 65/35 + 3% cc + 1/4# Flo-seal Excess
Amt. 225 Sks Yield 1.97 ft³/sk Density 12.5 PPG
TAIL: Pump Time hrs. Type Class A + 3% cc + 2% gel Excess
Amt. 100 Sks Yield 1.34 ft³/sk Density 15.2 PPG
WATER: Lead 10.9 gals/sk Tail 6.51 gals/sk Total 95 Bbls.

Pump Trucks Used 352 Dave W.
Bulk Equip. 353 Shane W.

Float Equip: Manufacturer Cementco
Shoe: Type Depth
Float: Type Baffle Depth
Centralizers: Quantity 2 Plugs Top Rubber Btm.
Stage Collars 2 - Baskets
Special Equip.
Disp. Fluid Type Fresh Amt. 5 Bbls. Weight 8.34 PPG
Mud Type Weight PPG

COMPANY REPRESENTATIVE Mike Cedillo CEMENTER Carl Balding

TIME AM/PM	PRESSURES PSI DRILL PIPE CASING	ANNULUS	FLUID PUMPED DATA TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min.	REMARKS
						Pipe on Bottom.
						Break Circulation.
3:00	300			79	6	Mix Pump 225 sx Lead Cement
	150		103	24	5	100 sx Tail Cement
						Stop Pumps.
						Release Plug.
			118	15	3	Start Displacement
			138	20	4½	Steady Rate
	300		141	3	3	Slow Rate
	300					Displacement In.
4:00	100					Bump Plug - Stop Pumps.
						End Job
						Cement Did Circulate

FINAL DISP. PRESS: 300 PSI BUMP PLUG TO 100 PSI BLEEDBACK Shut in / 300 BBLS. THANK YOU

Taylor Printing, Inc., Pratt, KS

ALLIED CEMENTING CO., INC.

ORIGINAL 1407

Federal Tax I.D.# 48-0727860

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

SERVICE POINT: Medicine Lodge

DATE 6-1-00	SEC. 9	TWP. 34S	RANGE 18W	CALLED OUT 8:00 pm	ON LOCATION 11:00 am	JOB START 3:30 AM	JOB FINISH 4:00 AM
LEASE Cole	WELL # 2		LOCATION Buttermilk 2E S/S			COUNTY Barber	STATE KS.
OLD OR NEW (Circle one)							

CONTRACTOR Duke #1
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 638'
CASING SIZE 8 5/8 x 24 DEPTH 638
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX 600 MINIMUM —
MEAS. LINE SHOE JOINT 32.11
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT 38 BBLS Freshwater

OWNER Crawford P. / + Gas

EQUIPMENT

PUMP TRUCK #352 CEMENTER Chad Bolding
HELPER Dave W
BULK TRUCK #353 DRIVER Shane W
BULK TRUCK # DRIVER

CEMENT

AMOUNT ORDERED
225 sx 65:35:6+3%cc+¼ #flo-seal
100 sx Class A+3%cc+2%gel

COMMON		@	
POZMIX		@	
GEL		@	
CHLORIDE		@	
		@	
		@	
		@	
		@	
		@	
HANDLING		@	
MILEAGE			

TOTAL

REMARKS:

Pipe on Bottom, Break Circulation. Mix 225 sx 65:35:6+3%cc+¼ #flo-seal 100 sx Class A+3%cc+2%gel Release Plug. Displace with 38 BBLS freshwater. Bump plug + shut in. Cement did circulate

SERVICE

DEPTH OF JOB 638			
PUMP TRUCK CHARGE			
EXTRA FOOTAGE		@	
MILEAGE		@	
PLUG Rubber		@	
		@	
		@	

TOTAL

CHARGE TO: Duke Drilling Co.
STREET
CITY STATE ZIP

FLOAT EQUIPMENT

1-Baffle plate		@	
1-Centralizer		@	
1-Basket		@	
		@	
		@	

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 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.

ORIGINAL

WELL NAME:	Cole #2
COMPANY:	Crawford Oil & Gas
LOCATION:	9-34s-18w
	Comanche co Kansas
DATE:	6/27/00

TRILOBITE TESTING L.L.C.

ORIGINAL

OPERATOR : Crawford Oil & Gas — DATE 6-17-2000
WELL NAME: Cole #2 — KB 1880.00 ft — TICKET NO: 12602 DST #1
LOCATION : 9-34s-18w Comanche co KS — GR 1872.00 ft — FORMATION: Mississippi
INTERVAL : 5286.00 To 5346.00 ft — TD 5346.00 ft — TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	13278	13278	2357		
SI 45	Range(Psi)	4400.0	4400.0	4995.0	0.0	0.0
SF 45	Clock(hrs)	12hr	12hr	12hr		
FS 90	Depth(ft)	5343.0	5343.0	5287.0	0.0	0.0

TIME DATA----------
PF Fr. 1355 to 1425 hr
IS Fr. 1425 to 1510 hr
SF Fr. 1510 to 1555 hr
FS Fr. 1555 to 1725 hr

	Field	1	2	3	4
A. Init Hydro	2603.0	2611.0	2586.0	0.0	0.0
B. First Flow	110.0	105.0	33.0	0.0	0.0
B1. Final Flow	110.0	96.0	24.0	0.0	0.0
C. In Shut-in	121.0	109.0	67.0	0.0	0.0
D. Init Flow	110.0	91.0	23.0	0.0	0.0
E. Final Flow	110.0	91.0	28.0	0.0	0.0
F. Fl Shut-in	121.0	103.0	103.0	0.0	0.0
G. Final Hydro	2471.0	2472.0	2477.0	0.0	0.0
Inside/Outside	O	O	I		

T STARTED 1117 hr
T ON BOTM 1350 hr
T OPEN 1355 hr
T PULLED 1725 hr
T OUT 2045 hr

RECOVERY
Tot Fluid 50.00 ft of 30.00 ft in DC and 20.00 ft in DP
10.00 ft of Gas in pipe.
50.00 ft of Gas cut mud
0.00 ft of 2% gas 98% mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

Tool Wt.	1800.00 lbs
Wt Set On Packer	25000.00 lbs
Wt Pulled Loose	2000.00 lbs
Initial Str Wt	55000.00 lbs
Unseated Str Wt	54000.00 lbs
Bot Choke	0.75 in
Hole Size	7.78 in
D Col. ID	2.25 in
D. Pipe ID	3.80 in
D.C. Length	30.00 ft
D.P. Length	5247.00 ft

BLOW DESCRIPTION
Initial Flow:
Weak blow built to fair 5" blow in 30 minutes.
Initial Shut-In:
No blow back.
Final Flow:
Weak 1 1/4" blow. Decreased to surface blow in 45 minutes.
Final Shut-In:
No blow back.

MUD DATA----------

Mud Type	Chemical
Weight	9.20 lb/c
Vis.	53.00 S/L
W.L.	8.00 in3
F.C.	0.00 in
Mud Drop	
Amt. of fill	0.00 ft
Btm. H. Temp.	1250.00 F
Hole Condition	
% Porosity	0.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out	
Tool Chased	
Tester	Brad Bortz
Co. Rep.	Jon Christensen
Contr.	Duke
Rig #	1
Unit #	
Pump T.	

SAMPLES:
SENT TO:

Test Successful: Y

TEST HISTORY

12602 DST #1 Cole #2 Crawford Oil & Gas

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2586.48
B:	0.00	33.59
C:	29.25	24.12
D:	45.75	67.52
E:	0.00	23.58
F:	40.50	28.98
G:	94.50	103.14
Q:	0.00	2477.19

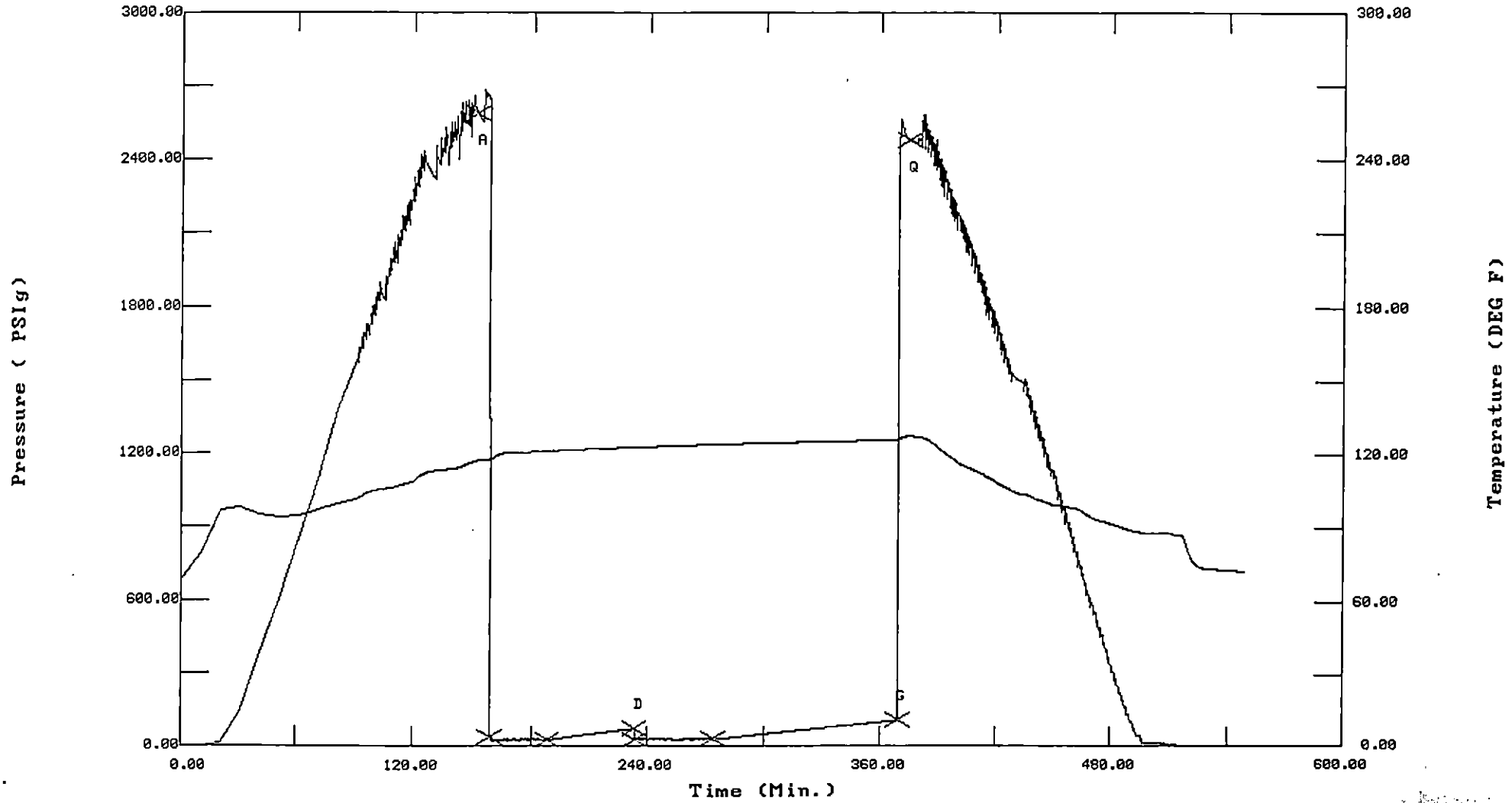
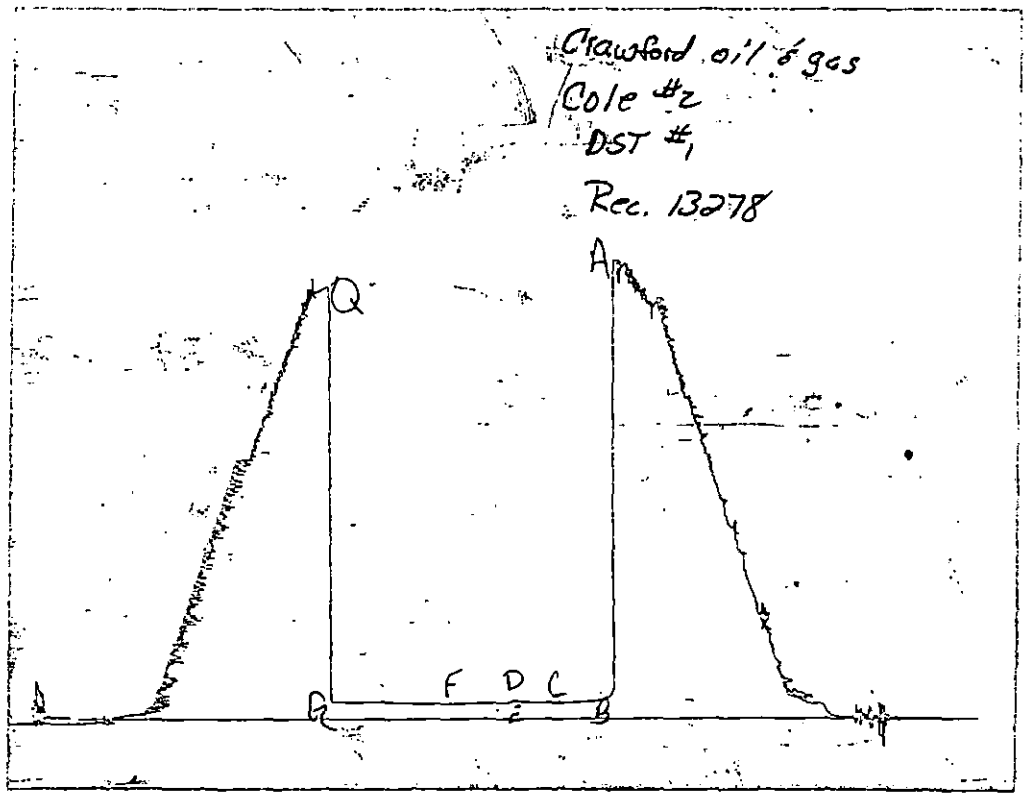


CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

Nº 12602

Well Name & No. Cole #2 Test No. 1 Date 6-17-2000

Company Crawford Oil & Gas Zone Tested Mississippi

Address P.O. 51 Coldwater Ks, 67029 Elevation 1880 KB 1872 GL

Co. Rep / Geo. Jon Christensen Cont. Duke #1 Est. Ft. of Pay 12 Por. 12 %

Location: Sec. 9 Twp. 34S Rge. 18W Co. Comanche State Ks

No. of Copies R Distribution Sheet (Y, N) N Turnkey (Y, N) — Evaluation (Y, N) —

Interval Tested 5286 - 5346 Initial Str Wt./Lbs. 55,000 Unseated Str Wt./Lbs. 54,000

Anchor Length 60' tool 27 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 2,000

Top Packer Depth 5281 Tool Weight 1,800

Bottom Packer Depth 5286 Hole Size — 7 7/8" — Rubber Size — 6 3/4" —

Total Depth 5346 Wt. Pipe Run — Drill Collar Run 1 — single 30'

Mud Wt. 9.2 LCM 2# Vis. 53 WL 8.0 Drill Pipe Size 83 stnds 4½ XH Ft. Run 5247 18'up

Blow Description Weak blow built to Fair 5" Blow in 30min. I. F. P

No Blow back I. S. I. P

Weak 1¼" blow Decreased to Surface Blow in 45min F. F. P

No Blow back F. S. I. P

Recovery — Total Feet 50 GIP 10' Ft. in DC 30 Ft. in DP 20'

Rec. 50'	Feet Of gas cut mud	2 %gas	%oil	%water 98	%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 125° °F Gravity — °API D@ — °F Corrected Gravity — °API

RW — @ — °F Chlorides — ppm Recovery Chlorides 8,600 ppm System

	AK-1	Alpine				
(A) Initial Hydrostatic Mud	2603	2586	PSI	Recorder No. 2357	T-On Location	8:30 Am
(B) First Initial Flow Pressure	110	33	PSI	(depth) 5287	T-Started	11:17 Am
(C) First Final Flow Pressure	110	24	PSI	Recorder No. 13278	T-Open	1:55 Pm
(D) Initial Shut-In Pressure	121	67	PSI	(depth) 5343	T-Pulled	5:26 Pm
(E) Second Initial Flow Pressure	110	23	PSI	Recorder No. —	T-Out	8:45 Pm
(F) Second Final Flow Pressure	110	28	PSI	(depth) —	T-Off Location	9:45
(G) Final Shut-in Pressure	121	103	PSI	Initial Opening 30	Test	✓
(Q) Final Hydrostatic Mud	2471	2477	PSI	Initial Shut-in 45	Jars	✓
				Final Flow 45	Safety Joint	✓
				Final Shut-in 90	Straddle	
					Circ. Sub	✓
					Sampler	
					Extra Packer	✓
					Elec. Rec.	✓
					Mileage	
					Other	
					TOTAL PRICE $	

Approved By Jon Christensen

Our Representative Brad Bot