

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
September 1999  
Form Must Be Typed

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

ORIGINAL

Operator: License # 32429  
 Name: CRAWFORD OIL & GAS, INC.  
 Address: P. O. Box 51  
 City/State/Zip: Coldwater, Kansas 67029  
 Purchaser: PRG  
 Operator Contact Person: Mark Pinnick  
 Phone: (316) 582-2612  
 Contractor: Name: DUKE DRILLING CO., INC.  
 License: 5929  
 Wellsite Geologist: Jon 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. \_\_\_\_\_  
3/25/00 4/7/00 4/12/00  
 Spud Date or Date Reached TD Completion Date or Recompletion Date

API No. 15 - 033-21,078-000  
 County: Comanche  
 App. SE SE NE Sec. 9 Twp. 34 S. R. 18  East  West  
2295 feet from S /  (circle one) Line of Section  
340 feet from  (circle one) W (circle one) Line of Section  
 STAGES Calculated from Nearest Outside Section Corner:  
 (circle one)  NE  SE  NW  SW  
 Lease Name: COLE Well #: 1  
 Field Name: Wildcat  
 Producing Formation: Mississippian  
 Elevation: Ground: 1875' Kelly Bushing: 1886'  
 Total Depth: 6100' Plug Back Total Depth: 5483'  
 Amount of Surface Pipe Set and Cemented at 620' Feet  
 Multiple Stage Cementing Collar Used?  Yes  No  
 If yes, show depth set \_\_\_\_\_ Feet  
 If Alternate II completion, cement circulated from \_\_\_\_\_  
 feet depth to \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

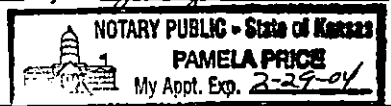
CONSERVATION DIVISION  
 Wichita, Kansas  
 JUL 24 2000  
 7-24-00

Drilling Fluid Management Plan Att. 1, 9-27-00 UR.  
 (Data must be collected from the Reserve Pit)  
 Chloride content 10,000 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. Operations Date: 7-24-00  
 Subscribed and sworn to before me this 24<sup>th</sup> day of July  
 19 2000  
 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

Operator Name: CRAWFORD OIL & GAS, INC. Lease Name: COLE Well #: 1  
 Sec. 9 Twp. 34S. 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Submit Copy)</i>  List All E. Logs Run: Spectral Density Neutron High Resolution Induction Cement Bond	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum  <div style="text-align: center; font-size: 2em; font-weight: bold;">See attached</div>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

CASING RECORD <input checked="" 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	# Sacjs Used	Type and Percent Additives
Conductor		20"		40'	10Sk Grout		
Surface	12-1/4"	8-5/8"	24#	620'	Lite	250	3%cc, 1/4#Flo.
Production	7-7/8"	4-1/2"	10/5#	5542'	AA2	140	10%salt, 5#gil.

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
6 spf	5276-94	1000 Gal 15% acid	
		90 T CO <sub>2</sub> 160 sx sand	
		400 Bbl Water	

TUBING RECORD	Size 2 3/8	Set At 5233	Packer At n/a	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
---------------	---------------	----------------	------------------	-------------------------------------------------------------------------------

Date of First, Resumerd Production, SWD or Enhr. WOPL	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 0	Bbls.	Gas 500	Mcf	Water 50	Bbls.	Gas-Oil Ratio	Gravity
-----------------------------------	----------	-------	------------	-----	-------------	-------	---------------	---------

Disposition of Gas **METHOD OF COMPLETION**

Vented  Sold  Used on Lease  Open Hole  Perforated  Dually-Comp.  Commingled  
*(If vented, Sumit ACO-18.)*

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

GEOLOGIC  
 REPORT  
 LOG

API # 15-033-21078

COMPANY <u>CRAWFORD</u>	
<u>OIL &amp; GAS, INC.</u>	
WELL # <u>1 COLE</u>	
FIELD <u>WILDCAT</u>	
LOCATION <u>2295' ENL &amp; 340' FEL, NE</u>	PRODUCTION <u>PAWNEE, MISS.</u>
SEC. <u>9</u> TWP. <u>34S</u> RGE. <u>18W</u>	ELEVATION KB <u>1886'</u>
COUNTY <u>COMANCHE</u>	DF <u>1883'</u>
STATE <u>KANSAS</u>	GL <u>1875'</u>
OPERATOR <u>CRAWFORD OIL &amp; GAS, INC.</u>	Drilling Measured From: <u>KB</u>
CONTRACTOR <u>DUKE DRILG. CO., RIG #5</u>	Samples Saved From <u>4000'</u> To: <u>6100'</u>
CONG#: <u>3/25/2000</u> COMP: <u>4/7/2000</u>	Drilling Time From <u>3500'</u> To: <u>6100'</u>
CASING RECORD	Samples Examined From: <u>4000'</u> To: <u>6100'</u>
SURF: <u>20" COND AT 40'; 85/8" @ 620' w/ 350</u> PROD: <u>4 1/2" e</u>	Geological Supervision From <u>4270'</u> To Total Depth
TOTAL DEPTH DRILLERS: <u>6100'</u>	Wellsite Geologist <u>JON CHRISTENSEN</u>
TOTAL DEPTH LOG <u>6094'</u>	Electrical Surveys <u>HALLIBURTON:</u>
	<u>DIL w/ SP &amp; GR, FDC/CNL</u>
	<u>w/ PE &amp; CALIPER, MICROLOG</u>

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
HEEBNER SHALE	4327'	4323	-2437	-4'
LANSING	4528'	4522	-2636	-4'
DRUM	4766'	4758	-2872	-7'
STARK SHALE	4876'	4871	-2985	-8'
SWOPE	4893'	4886	-3000	-7'
BASE KC	5028'	5024	-3138	-3'
MARMATON	5040'	5037	-3151	-4'
ALTAMONT	5099'	5092	-3206	-1'
PAWNEE	5141'	5134	-3248	-5'
CHEROKEE SHALE	5181'	5175	-3289	-3'
DETRITAL MISS.	5280'	5262	-3376	-2'
MISSISSIPPI	5295'	5273	-3387	+14'
COWLEY	5569'	5622	-3736	-69'
VIOLA	5976'	5982	-4096	-62'

REFERENCE WELL FOR STRUCTURE RINE / SUNRAY #1 BRINKMAN  
C SE SE Sec. 3-T34S-R18W, COMANCHE CO.,  
KANSAS

# ALLIED CEMENTING CO., INC.

# 143B ORIGINAL

Federal Tax I.D.# 48-0727860

REMIT TO: P.O. BOX 31  
WESSELL, KANSAS 67665

SERVICE POINT:  
med lodges ks

## 15-033-21078

DATE <u>3-26-00</u>	SEC. <u>9</u>	TWP. <u>34</u>	RANGE <u>1R</u>	CALLED OUT <u>1:20 A.M.</u>	ON LOCATION <u>4:30 A.M.</u>	JOB START <u>9:00 A.M.</u>	JOB FINISH <u>10:30 A.M.</u>
LEASE <u>oles</u>		WELL # <u>1</u>		LOCATION <u>Buttermilk Church, 3E.</u>		COUNTY <u>Comanche</u>	STATE <u>ks.</u>
OLD OR NEW (Circle one) <u>NEW</u>				<u>1/25-4/5</u>			

CONTRACTOR Duke Drlg. Co.  
 TYPE OF JOB Surface Csg.  
 HOLE SIZE 12 1/4 ID 6.25  
 CASING SIZE 8 3/8 x 24 DEPTH 620'  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX. 300 MINIMUM 150  
 MEAS. LINE SHOE JOINT 44.95  
 CEMENT LEFT IN CSG.  
 PERFS.  
 DISPLACEMENT Fresh H<sub>2</sub>O / 37/2 DISHs

OWNER Crawford  
 CEMENT  
 AMOUNT ORDERED 2505x ALW + 3%cc  
1/4# Flo-Seal 1005x CLASS A  
3%cc + 2%Gel

EQUIPMENT  
 # 328 Kevin Brumhardt  
 PUMP TRUCK CEMENTER Larry Dreiling  
 # 265 HELPER Mark Brumhardt  
 BULK TRUCK  
 # 240 DRIVER David F.  
 BULK TRUCK  
 # 301 DRIVER Mike Exker

COMMON #	<u>100</u>	@	<u>6.35</u>	<u>635.00</u>
POZMIX		@		
OFI.	<u>3</u>	@	<u>9.50</u>	<u>28.50</u>
CHLORIDE	<u>12</u>	@	<u>28.00</u>	<u>336.00</u>
<u>New</u>	<u>250</u>	@	<u>6.00</u>	<u>1500.00</u>
<u>Flo Seal</u>	<u>62.4</u>	@	<u>1.15</u>	<u>72.45</u>
		@		
		@		
HANDLING	<u>300</u>	@	<u>1.05</u>	<u>315.00</u>
MILEAGE	<u>300 x 50</u>		<u>.04</u>	<u>12.00</u>

TOTAL \$ 2629.95

### REMARKS:

Pipe on Bottom - Break Line  
Pump 2505x ALW + 3%cc + 1/4# Flo-seal  
1005x CLASS A + 3%cc + 2%Gel  
Release Plug Displace Plug w/ 37/2 DISHs  
Fresh H<sub>2</sub>O Bump Plug Shift In  
Cement Did Cure

### SERVICE

DEPTH OF JOB	<u>620'</u>			
PUMP TRUCK CHARGE	<u>0-300'</u>			<u>470.00</u>
EXTRA FOOTAGE	<u>320'</u>	@	<u>.43</u>	<u>137.60</u>
MILEAGE	<u>50</u>	@	<u>2.85</u>	<u>142.50</u>
PLUG TWP	<u>8 3/8"</u>	@	<u>90.00</u>	<u>90.00</u>
		@		
		@		

TOTAL \$ 840.10

CHARGE TO: Duke Drlg. Co.  
 STREET P.O. Box 333  
 CITY Wesell, Kans STATE Kansas ZIP 67665

### FLOAT EQUIPMENT

1-Baffle plate	@	<u>45.00</u>	<u>45.00</u>
1-Basket	@	<u>150.00</u>	<u>150.00</u>
	@		
	@		

TOTAL \$ 195.00

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 2.0  
 TOTAL CHARGE 4665.05  
 DISCOUNT 933.01 IF PAID IN 30 DAYS  
\$ 3732.04  
 X Kevin Brumhardt  
 PRINTED NAME

SIGNATURE Kevin Brumhardt

RECEIVED  
 STATE CORPORATION COMMISSION  
 JUL 24 2000  
 CONSERVATION DIVISION  
 Wichita, Kansas

# ALLIED CEMENTING CO., INC.

# 1483 ORIGINAL

Federal Tax I.D.# 48-0727860

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

SERVICE POINT:  
med. ladders

DATE <u>3-26-00</u>	SEC. <u>9</u>	TWP. <u>34</u>	RANGE <u>1R</u>	CALLED OUT <u>1:00 A.M.</u>	ON LOCATION <u>4:30 A.M.</u>	JOB START <u>9:00 A.M.</u>	JOB FINISH <u>10:30 A.M.</u>
LEASE/oles	WELL # <u>1</u>	LOCATION <u>Butter Milk Church, 3E-1/2S-4/5</u>		COUNTY <u>Comanche</u>	STATE <u>Ks.</u>		
OLD OR NEW (Circle one)							

CONTRACTOR Duke Drlg. Co. OWNER Crawford  
 TYPE OF JOB Surface Casg.  
 HOLE SIZE 12 1/4 TD 620'  
 CASING SIZE 8 3/8 x 24 DEPTH 620'  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX. 300 MINIMUM 150  
 MEAS. LINE SHOE JOINT 44.95  
 CEMENT LEFT IN CSG.  
 PERFS.  
 DISPLACEMENT Fresh H<sub>2</sub>O / 37 1/2 SHW  
 EQUIPMENT  
 # 328 Kevin Brumant  
 PUMP TRUCK CEMENTER Larry Deering  
 # 265 HELPER Jack Brumant  
 BULK TRUCK  
 # 240 DRIVER David F.  
 BULK TRUCK  
 # 301 DRIVER Mike Exker

CEMENT  
 AMOUNT ORDERED 250Sx ALLwt 3%cc  
1/4# Flo-Seal 100Sx CLASS A  
3%cc + 2%Gel  
 COMMON H 100 @ 6.35 635.00  
 POZMIX @  
 ORI. @ 9.50 19.00  
 CHLORIDE 12 @ 28.00 336.00  
New 250 @ 6.00 1500.00  
Flo Seal 624 @ 1.65 1034.50  
 HANDLING 300 @ 1.05 315.00  
 MILEAGE 300 x 50 @ .04 12.00  
 TOTAL 2629.50

### REMARKS:

Pipe on Bottom Break Line  
Pump 250Sx ALLwt 3%cc + 1/4# Flo-seal  
100Sx CLASS A + 3%cc + 2%Gel  
Release Plug Displace 19 1/4 37 1/2 SHW  
Fresh H<sub>2</sub>O Pump Plug Shut In  
Cement did not

### SERVICE

DEPTH OF JOB 620'  
 PUMP TRUCK CHARGE 0-300' 470.00  
 EXTRA FOOTAGE 330' @ .43 141.90  
 MILEAGE 50 @ 2.85 142.50  
 PLUG TWP 8 3/8" @ 90.00 90.00  
 TOTAL 814.40

CHARGE TO: Duke Drlg. Co.  
 STREET P.O. Box 31  
 CITY Great Bend STATE KANSAS ZIP 67530

### FLOAT EQUIPMENT

1-Baffle Plate @ 45.00 45.00  
 1-BASKET @ 150.00 150.00  
 TOTAL 195.00

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 2.0  
 TOTAL CHARGE 4665.05  
 DISCOUNT 933.01 IF PAID IN 30 DAYS  
\$ 3732.04  
 X Kevin Brumant  
 PRINTED NAME:

SIGNATURE [Signature]

RECEIVED  
 STATE CORPORATION COMMISSION

JUL 24 2000

CONSERVATION DIVISION  
 Wichita, Kansas

# ALLIED CEMENTING CO., INC.

# 1433 ORIGINAL

Federal Tax I.D.# 48-0727860

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

SERVICE POINT:  
med. lodge ks

DATE 3-26-00	SEC. 9	TWP. 34	RANGE 18	CALLED OUT 1:00 A.M.	ON LOCATION 4:30 A.M.	JOB START 9:00 A.M.	JOB FINISH 12:30 P.M.
LEASE Poles	WELL.# 1	LOCATION Buttermilk Church, 3E-			COUNTY Comanch	STATE KS.	
OLD OR NEW (Circle one)		1/25-4/5					

CONTRACTOR Duke Drilg. Co.  
 TYPE OF JOB Surface CSG  
 HOLE SIZE 1 3/4 TD 625'  
 CASING SIZE 8 3/8 x 24 DEPTH 620'  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX. 300 MINIMUM 230  
 MEAS. LINE SHOE JOINT 44.95  
 CEMENT LEFT IN CSG.  
 PERFS.  
 DISPLACEMENT Fresh #70 / 37 1/2 BBLs

OWNER Crawford  
 CEMENT  
 AMOUNT ORDERED 2,505x ALWT + 3%CC  
1/4# Flo-Seal 1005x CLASS A  
3%CC + 2%Gel

EQUIPMENT  
 #328 Kevin Brumhardt  
 PUMP TRUCK CEMENTER Larry Dreiling  
 #265 HELPER Mark Brumhardt  
 BULK TRUCK  
 #240 DRIVER David F.  
 BULK TRUCK  
 #301 DRIVER Mike Becker

COMMON #	100	@	6.35	635.00
POZMIX		@		
GEL	3	@	9.50	28.50
CHLORIDE	12	@	28.00	336.00
ALWT	250	@	6.00	1500.00
Flo-Seal	624	@	1.15	724.50
		@		
		@		
HANDLING	300	@	1.05	317.50
MILEAGE	300 x 50	@	.04	120.00

TOTAL # 2629.25

### REMARKS:

Pipe on Bottom - Break Circ  
 Pump 2,505x ALWT + 3%CC + 1/4# Flo-seal  
 1005x CLASS A + 3%CC + 2%Gel  
 Release Plug Displace Plug w/ 37 1/2 BBLs  
 Fresh #70 Pump Plug Shut In  
 Cement Did Circ

### SERVICE

DEPTH OF JOB	620'		
PUMP TRUCK CHARGE	0-300'		470.00
EXTRA FOOTAGE	320'	@	.43 137.60
MILEAGE	50	@	2.95 147.50
PLUG T W/ 8 3/8"		@	90.00 90.00
		@	
		@	

TOTAL # 840.10

CHARGE TO: Duke Drilg. Co.  
 STREET P.O. Box 323  
 CITY Great Bend STATE KANSAS ZIP 67530

### FLOAT EQUIPMENT

1-Baffle Plate	@	45.00	45.00
1-BASKET	@	150.00	150.00
	@		
	@		

TOTAL # 195.00

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 2.00  
 TOTAL CHARGE 4665.05  
 DISCOUNT 933.01 IF PAID IN 30 DAYS  
\$ 3732.04  
 X Kevin Brumhardt  
 PRINTED NAME

SIGNATURE [Signature]

RECEIVED  
 STATE CORPORATION COMMISSION

JUL 24 2000

CONSERVATION DIVISION  
 Wichita, Kansas

**TREATMENT REPORT 01602**



Customer ID		Date	
Customer <i>DUKE DRILLING CO., INC.</i>		<i>4-8-00</i>	
Lease <i>COLE</i>		Lease No.	Well # <i>1</i>
Field Order # <i>6-2342</i>	Station <i>PRATT, KS</i>	Casing <i>4 1/2</i>	Depth <i>5542</i>
Type Job <i>LOWESTRESS - NEW LOG</i>		County <i>COMANCHE</i>	State <i>KS</i>
Formation		Legal Description <i>3-345-18W</i>	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <i>4 1/2</i>	Tubing Size	Shots/Ft		-Acid-		RATE	PRESS	ISP
Depth <i>5542</i>	Depth	From	To	<i>140 SLS AA2</i>				5 Min.
Volume	Volume	From	To	<i>10% SULT, 1/2% FLU 372</i>	Max			10 Min.
Max Press	Max Press	From	To	<i>3 1/2% GEL BRIDGE</i>	Min			15 Min.
Well Connection	Annulus Vol.	From	To	<i>5 1/2% BRIDGE</i>	Avg			15 Min.
Log Depth	Packer Depth	From	To	<i>25 SLS 60/40 PZ</i>	MHP Used			Annulus Pressure
		From	To	<i>FLU RH. &amp; 1/4H.</i>	Gas Volume			Total Load

Customer Representative <i>MARVIN PENNICK</i>	Station Manager <i>DHUE NORTON</i>	Treater <i>KEVIN GURLEY</i>			
Service Units	<i>107</i>	<i>35</i>	<i>57</i>	<i>30</i>	<i>72</i>

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>0600</i>					<i>600 WCH 20W TD - 6100'</i>
					<i>RUN 130 FTS 4 1/2 PISC. - 5542'</i>
					<i>NEW BASKET TYPE SHOE, C.D. BAFFLE</i>
					<i>TOO 1st CEMENT, CONTINUED 1-4-7-10-13</i>
<i>100</i>					<i>BREAK CORE ON TI. #65 - 30 MINUTES</i>
					<i>SET CASING AT - 5542'</i>
<i>130</i>	<i>1200</i>				<i>DROP BALL, SET BASKET SHOE, CONC</i>
					<i>FOUL 1 HOUR</i>
					<i>HOOK UP PUMP TRK TO CASING</i>
<i>135</i>	<i>300</i>		<i>2L</i>	<i>6</i>	<i>PUMP 20 BBL OF FLUSH</i>
	<i>300</i>		<i>5</i>	<i>6</i>	<i>PUMP 5 BBL H2O SPACER</i>
					<i>25 SLS 60/40 PZ → PUMP RAT HOLE AND MOUSE HOLE</i>
<i>150</i>	<i>300</i>		<i>0</i>	<i>6</i>	<i>START MIX CEMENT</i>
					<i>(25 SLS SAND OIL, 140 SLS AA2 CEMENT)</i>
<i>02</i>	<i>100</i>		<i>40</i>	<i>6</i>	<i>FLUSH MIX CEMENT</i>
					<i>SHUT DOWN - WASH LINE - DROP PLUG</i>
<i>07</i>	<i>0</i>		<i>0</i>	<i>8</i>	<i>START RCL H2O DESI?</i>
	<i>400</i>		<i>62</i>	<i>8</i>	<i>START LEFT CEMENT</i>
	<i>600</i>		<i>83</i>	<i>4</i>	<i>SLOW RATE</i>
<i>02</i>	<i>1500</i>		<i>87.5</i>	<i>4</i>	<i>RUN DOWN - RETURN - H2O</i>
<i>00</i>					<i>JOB COMPLETE - THANKS - KEVIN</i>

RECEIVED  
STATE CORPORATION COMMISSION  
JUL 24 2000  
CONSERVATION DIVISION  
Wichita, Kansas

ORIGINAL

TREATMENT REPORT 01602



Customer ID		Date	
Customer DUKE DRILLING CO. INC		4-8-00	
Lease	COLE	Lease No.	Well #
Field Order #	Station	Casing	Depth
02342	PLANT, KS	4 1/2	5542
Type Job	Formation	County	State
LOW STRUNG - NEW WELL		COMANCHE	KS
		Legal Description	
		3-545-18W	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISP	
4 1/2				140 SLS AA2				
Depth	Depth	From	To	Pre-Pad	Max		5 Min.	
5542				10 1/2 SLS, 1/2 L FLU 373	Min		10 Min.	
Volume	Volume	From	To	Pad	Avg		15 Min.	
				3 1/2 GALS BUREL				
Max Press	Max Press	From	To	Fract	HMP Used		Annulus Pressure	
				5 1/2 HR PERMISTE				
Foil Connection	Annulus Vol.	From	To	25 SLS 60/40 PZ	Gas Volume		Total Load	
				FRAC 2H. & 1 1/2 H.				

Customer Representative	Station Manager	Treater
MICHAEL PENNING	DHUE NORTON	KEVIN G. ROLEY

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
0600					C/O LIGHT 20W TD - 6100'
					RUN 130 JTS 4 1/2 (15G) - 5542'
					RUN BASKET PIPE SHOE, C.I.D. BAFFLE
					TO 1 <sup>ST</sup> COLLAR. CONTINUE DOWN 1-4-7-10-13
100					BREAK CORE ON TI. #65 - 30 MINUTES
					SET CHASING AT - 5542'
130	1200				DROP BALL SET BASKET SHOE, CIRC.
					FOIL 1 HOUR
					HOOK UP PERMIST TRAIL TO CHASING.
135	300		20	6	PERMIST 20 BBL 1A FLUSH
	300		5	6	PERMIST 5 BBL 1A FLUSH
					25 SLS 60/40 PZ → PLUG RAT HOLE AND MOUSE HOLE
150	300		0	6	START MIX PERMIST
					(25 SLS SCHEDULED, 140 SLS AA2 CONTIN.)
02	100		40	6	FLUSH MIX PERMIST
					SHUT DOWN - WASH CORE - DROP PLUG
07	0		0	8	START FILL H <sub>2</sub> O DESIP
	400		62	8	START LEFT PERMIST
	600		83	4	SLOW RATE
02	1500		87.5	4	RUN DOWN - RELEASE - HOLD
00					JOB COMPLETE - THANKS - KEVIN

RECEIVED  
STATE CORPORATION COMMISSION

JUL 24 2000

CONSERVATION DIVISION  
Wichita, Kansas



ORIGINAL

TREATMENT REPORT 01602



Customer ID	Date
Customer DUKE DRILLING CO. INC.	4-8-00
Lease COLE	Lease No.
	Well # 1

Field Order # 62342	Station PLANT, KS	Casing 4 1/2	Depth 5542	County COMANCHE	State KS
Type Job LOWESTRACK - NEW WELL			Formation	Legal Description 3-545-18W	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 4 1/2	Tubing Size	Shots/Ft		Acid 140 SLS AA2		RATE	PRESS	ISP
Depth 5542	Depth	From	To	Pre-Pad 10% SALT, 1/2 FLUORIDE	Max			5 Min.
Volume	Volume	From	To	Post 34% WTS BRINE	Min			10 Min.
Max Press	Max Press	From	To	Flow 5 1/8 PERFORATE	Avg			15 Min.
Foil Connection	Annulus Vol.	From	To	25 SLS 60/40 POZ	HMP Used			Annulus Pressure
Plug Depth	Pecker Depth	From	To	Flow FLUORIDE & IAH	Gas Volume			Total Lead

Customer Representative MIGUEL PENNELL	Station Manager DANIEL NORTON	Treater KEVIN G. RILEY
-------------------------------------------	----------------------------------	---------------------------

Service Units	107	35	57	30	72
---------------	-----	----	----	----	----

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
0600					LOW LOCATIONS TD - 6100'
					RUN 130 TTS 4 1/2 (ISC - 5542')
					NEW BASKET TYPE SHOE, L.D. Baffle
					IN 1 <sup>st</sup> COLLAR, CONTROLLER 1-4-7-10-13
100					BREAK LOG ON TI #65 - 30 MINUTES
					SET CHASING AT - 5542'
230	1200				DROP BALL SET BASKET SHOE, CONC
					FOIL 1 HOUR
					HOOK UP PUMP TRAIL TO CHASING
235	300		20	6	PUMP 20 BBL 1 <sup>st</sup> FLUSH
	300		5	6	PUMP 5 BBL 1 <sup>st</sup> H2O STROKE
					25 SLS 60/40 POZ → PUMP OUT HOLE AND MURSE HOLE
250	300		0	6	START MIX MORTAR
					(25 SLS SANDWELL, 140 SLS AA2 COMPOST)
02	100		40	6	FINISH MIX MORTAR
					SHUT DOWN - WASH LINE - DROP PLUG
07	0		0	8	START REL H2O DESI?
	400		62	8	START LEFT MORTAR
	600		83	4	SLOW RATE
02	1500		87.5	4	PLUG DOWN - RELEASE - HOLD
00					JOB COMPLETE - THANKS - KEVIN

RECEIVED  
STATE CORPORATION COMMISSION  
MAY 24 2000  
CONSERVATION DIVISION  
Wichita Kansas

ORIGINAL

TRILOBITE TESTING L.L.C.

OPERATOR : Crawford Oil & Gas Inc. DATE 04-02-000  
 WELL NAME: Cole #1 Comanche Co. KB 1886.00 ft TICKET NO: 12782 DST #1  
 LOCATION : Sec.09 Twp.34s Rg.18w Ks GR 1875.00 ft FORMATION: Pawnee  
 INTERVAL : 5133.00 To 5155.00 ft TD 5155.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	10248	10248	2342			PF Fr. 2210 to 2240 hr
SI 45 Range (Psi)	4400.0	4400.0	4995.0	0.0	0.0	IS Fr. 2240 to 2325 hr
SF 60 Clock (hrs)	12 hr	12 hr	batt.			SF Fr. 2325 to 0025 hr
FS 90 Depth (ft)	5152.0	5152.0	5138.0	0.0	0.0	FS Fr. 0025 to 0155 hr

	Field	1	2	3	4	
A. Init Hydro	2492.0	2553.0	2506.0	0.0	0.0	T STARTED 1934 hr
B. First Flow	57.0	66.0	20.0	0.0	0.0	T ON BOTM 2205 hr
B1. Final Flow	69.0	70.0	59.0	0.0	0.0	T OPEN 2210 hr
C. In Shut-in	1982.0	2000.0	1948.0	0.0	0.0	T PULLED 0159 hr
D. Init Flow	62.0	65.0	23.0	0.0	0.0	T OUT 0420 hr
E. Final Flow	75.0	86.0	75.0	0.0	0.0	
F. Fl Shut-in	1975.0	1989.0	1938.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2459.0	2534.0	2476.0	0.0	0.0	Tool Wt. 2100.00 lbs
Inside/Outside	0	0	I	T		Wt Set On Packer 20000.00 lbs
						Wt Pulled Loose 72000.00 lbs
						Initial Str Wt 66000.00 lbs
						Unseated Str Wt 66000.00 lbs

RECOVERY

Tot Fluid 105.00 ft of 0.00 ft in DC and 105.00 ft in DP  
 0.00 ft of Gas in all fluid free pipe.  
 45.00 ft of Gas Cut Mud 5%gas 95%mud  
 60.00 ft of Muddy Water 37%mud 63%water  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of Rw .14 ohms @ 60 degrees F.  
 0.00 ft of EST.FT. of PAY-----6  
 SALINITY 66000.00 P.P.M. A.P.I. Gravity 0.00

MUD DATA-----

Mud Type	Chemical
Weight	9.20 lb/cf
Vis.	45.00 S/L
W.L.	9.60 in3
F.C.	0.20 in
Mud Drop N	

BLOW DESCRIPTION

Initial Flow:  
 Strong blow -bottom of bucket in 75sec  
 Gas to surface in 18 minutes  
 (see gas volume report)

Initial shutin:

No blow

Final Flow:

Strong blow - see gas volume report

Final Flow:

Weak blow (1/2")

SAMPLES: Gas sample

SENT TO: Caraway/Liberal

RECEIVED  
STATE CORPORATION COMMISSION

JUL 24 2000

CONSERVATION DIVISION  
Wichita, Kansas

Test Successful: Y

Amt. of fill	1.00 ft
Btm. H. Temp.	117.00 F
Hole Condition	good
* Porosity	12.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	None
Reversed Out N	
Tool Chased N	
Tester	Gary Pevoteaux
Co. Rep.	Jon Christensen
Contr.	Duke Drlg.
Rig #	5
Unit #	
Pump T.	LCM 5 #/bl



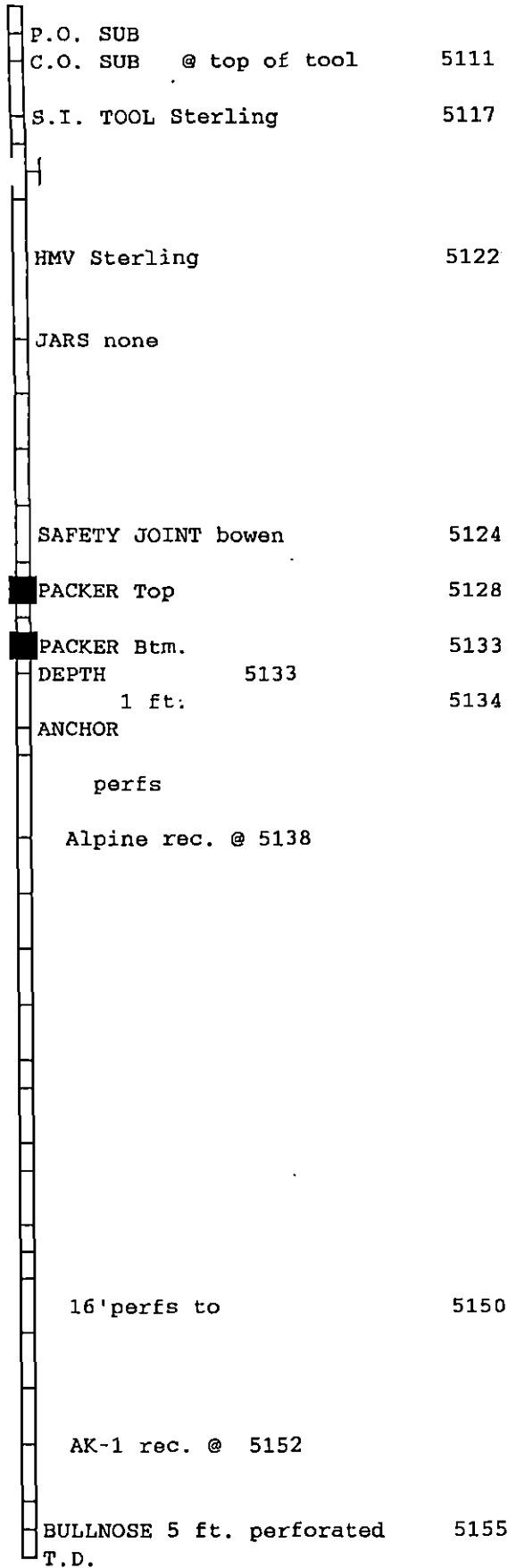
\*\*\* TOOL DIAGRAM \*\*\* CONVENTIONAL

WELL NAME: Cole #1 Comanche Co.  
 LOCATION : Sec.09 Twp.34s Rg.18w Ks  
 TICKET No. 12782 D.S.T. No. 1 DATE 04-02-000  
 TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 22  
 INTERVAL TOOL .....  
 BOTTOM PACKERS AND ANCHOR ..... 22  
 TOTAL TOOL ..... 44  
 DRILL COLLAR ANCHOR IN INTERVAL .....  
 D.C. ANCHOR STND.Stands Single Total  
 D.P. ANCHOR STND.Stands Single Total  
 TOTAL ASSEMBLY ..... 44  
 D.C. ABOVE TOOLS.Stands Single Total  
 D.P. ABOVE TOOLS.Stands82 Single 1 Total 5135  
 TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5179  
 TOTAL DEPTH ..... 5155  
 TOTAL DRILL PIPE ABOVE K.B. .... 24

REMARKS:  
 Comments:

FLUID SAMPLER DATA (not run)

GAS----- cubic ft  
 OIL----- ML.  
 MUD----- ML.  
 WATER----- ML.  
 OTHER-----  
 PRESSURE----- PSI  
 Rw ----- ohms @ deg. F.  
 CHLORIDES----- ppm.  
 GRAVITY----- deg.API



# NATURAL GAS ANALYSIS REPORT

**Sampled by:**  
 Trilobite Testing, L. L. C.  
 Hays, Kansas  
 Scott City, Kansas  
 Phone: 800-728-5369  
 Fax: 913-625-5620

**Analyzed by:**  
 Caraway Analytical, Inc  
 P. O. Box 2137  
 Liberal, Kansas 67905  
 Phone: 316-624-5389  
 Fax: 316-626-7108

**Lab Number:** 200020<sup>17</sup> **Analyzed:** 04/06/00

**Sample From:** Cole #1 DST 1 **Pressure:**  
**Producer:** Crawford Oil & Gas **Temperature:**

**Date:** 9-30-18 **Location:**

**Time:** **County:** Comanche  
**Sampler:** **State:** Kansas  
**Source:** **Formation:** Pawnee

	Mole %	GPM
Helium	He: 0.103	0.000
Hydrogen	H2: 0.006	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 2.694	0.000
Carbon Dioxide	CO2: 0.046	0.000
Methane	C1: 88.539	0.000
Ethane	C2: 3.533	0.945
Propane	C3: 2.252	0.621
Iso Butane	iC4: 0.251	0.082
Normal Butane	nC4: 0.923	0.291
Iso Pentane	iC5: 0.233	0.085
Normal Pentane	nC5: 0.330	0.120
Hexanes Plus	C6+: 1.090	0.476

TOTAL: 100.000 2.619

Z Fact: 0.9973

SP.GR.: 0.6630

BTU (SAT): 1116.1 @ 14.73 psia

BTU (DRY): 1135.8 @ 14.73 psia

**OCTANE RATING: 122.6**

COMMENTS:

0.000

# TEST HISTORY

12782 DST#1 COLES #1 CRAWFORD OIL & GAS

Flag Points

t(Min.) P( PSig)

A:	0.00	2506.16
B:	0.00	20.22
C:	30.50	58.74
D:	45.50	1948.29
E:	0.00	22.90
F:	59.00	74.94
G:	93.00	1938.43
Q:	0.00	2476.37

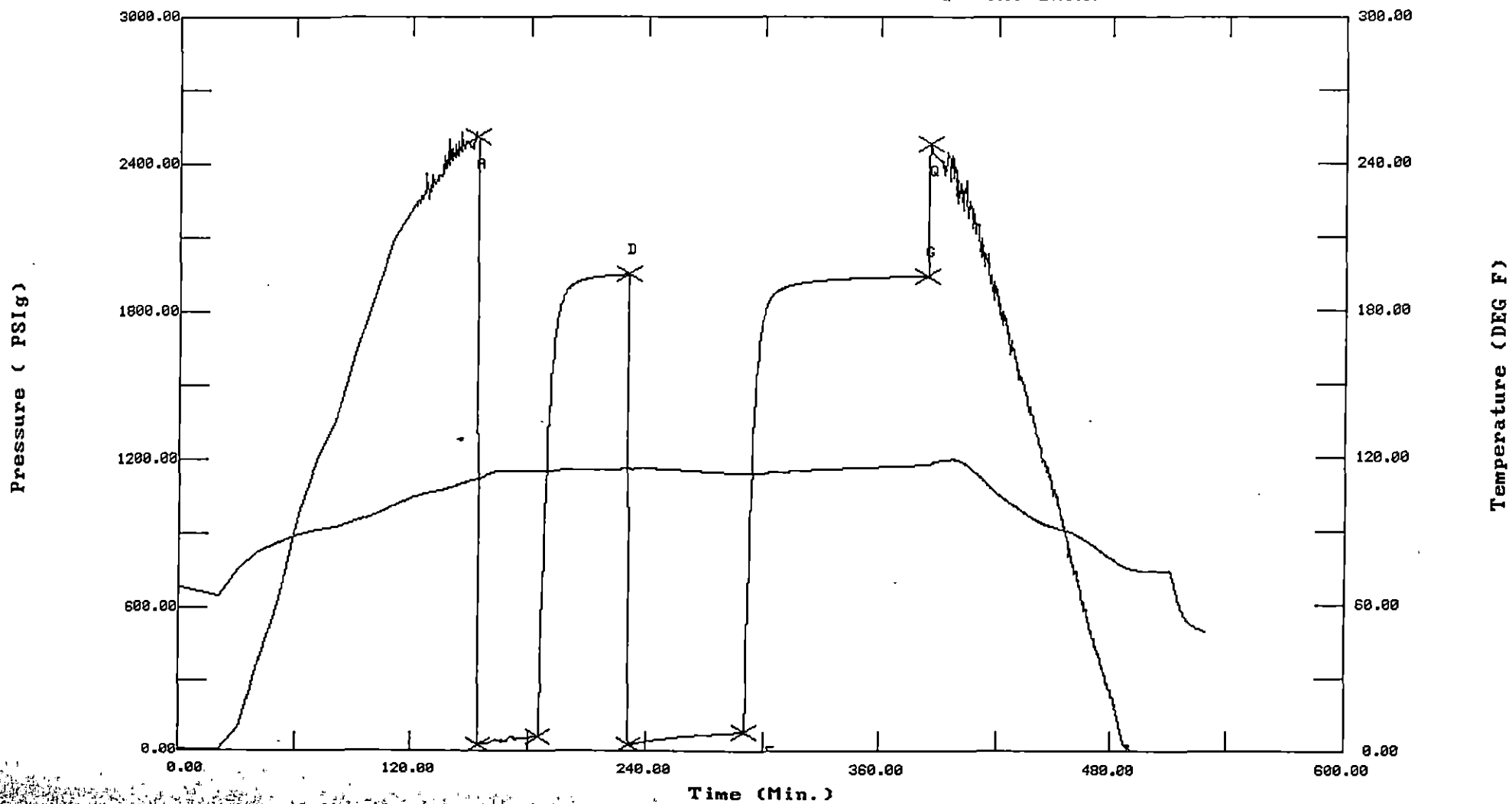
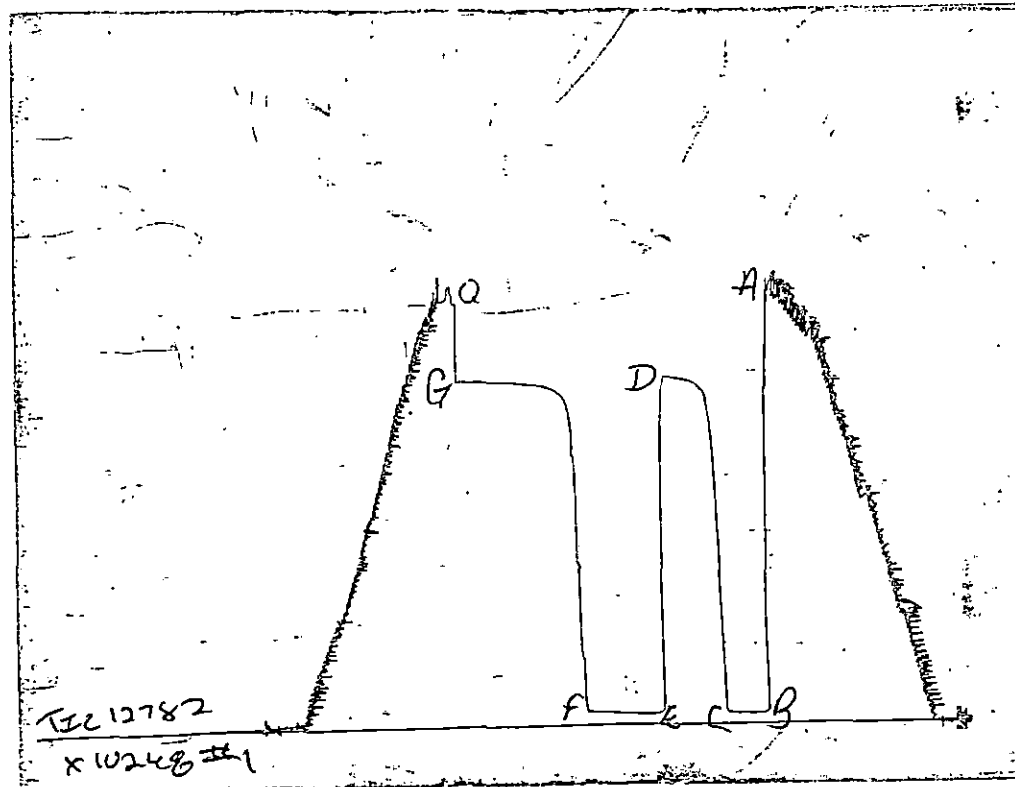


CHART PAGE



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. 12782

Well Name & No. Coles #1 Test No. 1 Date 4-2-2000  
 Company Crawford Oil & Gas Inc. Zone Tested Pawnee  
 Address P.O. Box 51, Coldwater Ks. 67029 Elevation 1866 KB 1875 GL  
 Co. Rep / Geo. Jon Christensen Cont. Duke Dily #15 Est. Ft. of Pay 6 Por.     %  
 Location: Sec. 9 Twp. 34<sup>s</sup> Rge. 18<sup>w</sup> Co. Comanche State Ks.  
 No. of Copies 5 Distribution Sheet (Y, N) N Turnkey (Y, N) Yes Evaluation (Y, N)    

Interval Tested 5133 - 5155' Initial Str Wt./Lbs. 66,000 Unseated Str Wt./Lbs. 66,000  
 Anchor Length 22' Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 72,000  
 Top Packer Depth 5128' Tool Weight 2,100<sup>IT</sup>  
 Bottom Packer Depth 5133' Hole Size — 7 7/8" ✓ Rubber Size — 6 3/4" ✓  
 Total Depth 5155' Wt. Pipe Run None Drill Collar Run None  
 Mud Wt. 9.2 LCM 5<sup>th</sup> Vis. 4.5 WL 9.6cc. Drill Pipe Size 4 1/2" X.H. Ft. Run 5135'  
 Blow Description FF: Strong blow. B.O.B. in 75 secs. G.T.S. in 18 mins.  
(see gas volume report) F.S.I.: No blow.  
FF: Strong blow. (see gas volume report) F.S.I.: Weak blow (1/2")

Recovery — Total Feet	GIP	Ft. in DC	Ft. in DP
<u>105</u>	<u>Yes</u>	<u>   </u>	<u>105</u>
Rec. <u>45</u> Feet Of <u>GCM</u>		5 %gas	%oil %water <u>95</u> %mud
Rec. <u>60</u> Feet Of <u>MW</u>		%gas	%oil <u>63</u> %water <u>37</u> %mud
Rec. <u>   </u> Feet Of <u>   </u>		%gas	%oil %water %mud
Rec. <u>   </u> Feet Of <u>   </u>		%gas	%oil %water %mud
Rec. <u>   </u> Feet Of <u>   </u>		%gas	%oil %water %mud

BHT 117 °F Gravity N/A °API D@     °F Corrected Gravity N/A °API  
 RW 14 @ 60 °F Chlorides 4,000 ppm Recovery Chlorides 4,000 ppm System

	AK-1	Alpine	Recorder No.	T-On Location
(A) Initial Hydrostatic Mud	<u>2492</u>	<u>2506</u>	<u>2342</u>	<u>1720</u>
(B) First Initial Flow Pressure	<u>57</u>	<u>20</u>	(depth) <u>5138'</u>	T-Started <u>1934</u>
(C) First Final Flow Pressure	<u>69</u>	<u>59</u>	Recorder No. <u>10248</u>	T-Open <u>2210</u>
(D) Initial Shut-in Pressure	<u>1982</u>	<u>1948</u>	(depth) <u>5152'</u>	T-Pulled <u>0159</u>
(E) Second Initial Flow Pressure	<u>62</u>	<u>23</u>	Recorder No. <u>   </u>	T-Out <u>0420</u>
(F) Second Final Flow Pressure	<u>75</u>	<u>75</u>	(depth) <u>   </u>	T-Off Location <u>0515</u>
(G) Final Shut-in Pressure	<u>1975</u>	<u>1938</u>	Initial Opening <u>30</u>	Test <u>✓ 800<sup>00</sup></u>
(Q) Final Hydrostatic Mud	<u>2459</u>	<u>2476</u>	Initial Shut-in <u>45</u>	Jars <u>   </u>
			Final Flow <u>60</u>	Safety Joint <u>✓ 50<sup>00</sup></u>
			Final Shut-in <u>90</u>	Straddle <u>   </u>
			<u>4</u>	Circ. Sub <u>   </u>
			<u>1</u>	Sampler <u>   </u>
				Extra Packer <u>   </u>
				Elec. Rec. <u>✓ 150<sup>00</sup></u>
				Mileage <u>   </u>
				Other <u>   </u>
				TOTAL PRICE \$ <u>✓ 1000<sup>00</sup></u>

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Jon Christensen

Our Representative Conny Ruester

TRILOBITE TESTING L.L.C.

OPERATOR : Crawford Oil & Gas Inc. DATE 04-03-000  
 WELL NAME: Cole #1 Comanche Co. KB 1886.00 ft TICKET NO: 12783 DST #2  
 LOCATION : Sec.09 Twp.34s Rg.18w Ks GR 1875.00 ft FORMATION: Miss.  
 INTERVAL : 5285.00 To 5330.00 ft TD 5330.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	10248	10248	2342			PF Fr. 0145 to 0215 hr
SI 45 Range(Psi )	4400.0	4400.0	4995.0	0.0	0.0	IS Fr. 0215 to 0300 hr
SF 60 Clock(hrs)	12 hr	12 hr	batt.			SF Fr. 0300 to 0400 hr
FS 90 Depth(ft )	5327.0	5327.0	5290.0	0.0	0.0	FS Fr. 0400 to 0530 hr

	Field	1	2	3	4	
A. Init Hydro	2591.0	2593.0	2608.0	0.0	0.0	T STARTED 2249 hr
B. First Flow	207.0	197.0	217.0	0.0	0.0	T ON BOTM 0140 hr
B1. Final Flow	137.0	148.0	130.0	0.0	0.0	T OPEN 0145 hr
C. In Shut-in	1727.0	1711.0	1723.0	0.0	0.0	T PULLED 0531 hr
D. Init Flow	207.0	195.0	237.0	0.0	0.0	T OUT 0810 hr
E. Final Flow	139.0	150.0	122.0	0.0	0.0	
F. Fl Shut-in	1793.0	1792.0	1787.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2547.0	2588.0	2575.0	0.0	0.0	Tool Wt. 2100.00 lbs
Inside/Outside	O	O	I	T		Wt Set On Packer 20000.00 lbs
						Wt Pulled Loose 80000.00 lbs
						Initial Str Wt 68000.00 lbs
						Unseated Str Wt 68000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 0.00 ft
						D.P. Length 5289.00 ft

RECOVERY

Tot Fluid 190.00 ft of 0.00 ft in DC and 190.00 ft in DP  
 0.00 ft of Gas in all fluid free pipe.  
 190.00 ft of Gas Cut Mud 8%gas 92%mud  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of  
 0.00 ft of Rw n.c. ohms @ degrees F.  
 0.00 ft of EST.FT. of PAY-----20  
 SALINITY 6000.00 P.P.M. A.P.I. Gravity 0.00

MUD DATA-----

Mud Type	Chemical
Weight	9.20 lb/cf
Vis.	53.00 S/L
W.L.	9.60 in3
F.C.	0.20 in
Mud Drop N	

BLOW DESCRIPTION

Initial Flow:  
 Strong blow - gas to surface in 2 1/2 minutes (see gas volume report)

Initial Shutin:

No blow

Final Flow:

Strong blow - see gas volume report

Final Shutin:

No blow

SAMPLES: Gas sample

SENT TO:Caraway/Liberal

Amt. of fill	0.00 ft
Btm. H. Temp.	123.00 F
Hole Condition	good
% Porosity	16.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	None
Reversed Out N	
Tool Chased N	
Tester	Gary Pevoteaux
Co. Rep.	Jon Christensen
Contr.	Duke Drlg.
Rig #	5
Unit #	
Pump T.	LCM 4 #/bl

Test successful: Y



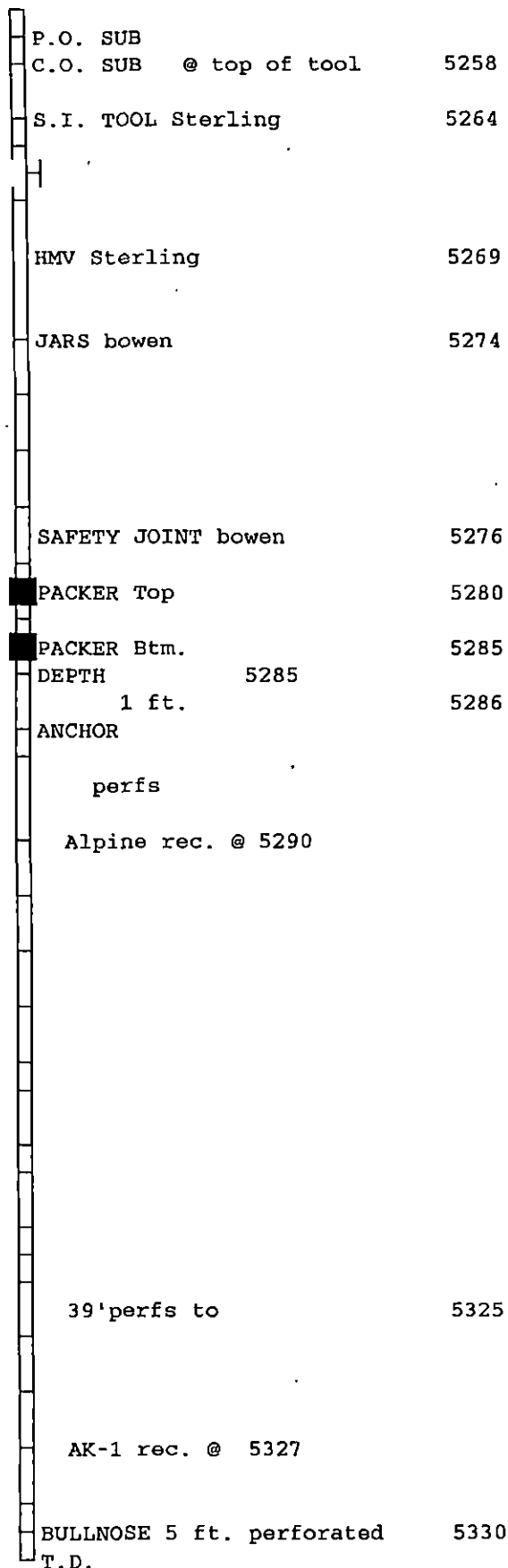
\*\*\* TOOL DIAGRAM \*\*\* CONVENTIONAL

WELL NAME: Cole #1 Comanche Co.  
 LOCATION : Sec.09 Twp.34s Rg.18w Ks  
 TICKET No. 12783 D.S.T. No. 2 DATE 04-03-000  
 TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 27  
 INTERVAL TOOL .....  
 BOTTOM PACKERS AND ANCHOR ..... 45  
 TOTAL TOOL ..... 72  
 DRILL COLLAR ANCHOR IN INTERVAL .....  
 D.C. ANCHOR STND.Stands Single Total  
 D.P. ANCHOR STND.Stands Single Total  
 TOTAL ASSEMBLY ..... 72  
 D.C. ABOVE TOOLS.Stands Single Total  
 D.P. ABOVE TOOLS.Stands85 Single Total 5289  
 TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5361  
 TOTAL DEPTH ..... 5330  
 TOTAL DRILL PIPE ABOVE K.B. .... 31

REMARKS:  
 Comments:

FLUID SAMPLER DATA (not run)

GAS----- cubic ft  
 OIL----- ML.  
 MUD----- ML.  
 WATER----- ML.  
 OTHER-----  
 PRESSURE----- PSI  
 Rw ----- ohms @ deg. F.  
 CHLORIDES----- ppm.  
 GRAVITY----- deg.API



# NATURAL GAS ANALYSIS REPORT

**Sampled by:**

Trilobite Testing, L. L. C.  
Hays, Kansas  
Scott City, Kansas  
Phone: 800-728-5369  
Fax: 913-625-5620

**Analyzed by:**

Caraway Analytical, Inc  
P. O. Box 2137  
Liberal, Kansas 67905  
Phone: 316-624-5389  
Fax: 316-626-7108

Lab Number: 20002018 Analyzed: 04/06/00

Sample From: Cole #1 DST 2

Pressure:

Producer: Crawford Oil & Gas

Temperature:

Date: Location: 9:34:18

Time:

County: Comanche

Sampler:

State: Kansas

Source:

Formation: Miss

	Mole %	GPM
Helium	He: 0.094	0.000
Hydrogen	H2: 0.006	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 2.065	0.000
Carbon Dioxide	CO2: 0.169	0.000
Methane	C1: 93.025	0.000
Ethane	C2: 2.498	0.668
Propane	C3: 0.851	0.234
Iso Butane	iC4: 0.119	0.039
Normal Butane	nC4: 0.305	0.096
Iso Pentane	iC5: 0.101	0.037
Normal Pentane	nC5: 0.133	0.048
Hexanes Plus	C6+: 0.634	0.277

TOTAL: 100.000 1.399

Z Fact: 0.9977

SP.GR.: 0.6132

BTU (SAT): 1047.2 @ 14.73 psia

BTU (DRY): 1065.7 @ 14.73 psia

**OCTANE RATING: 125.0**

COMMENTS:

0.000

# TEST HISTORY

12783 DST#2 COLE #1 CRAWFORD OIL & GAS

Flag Points

t(Min.) P( PSig)

A:	0.00	2608.38
B:	0.00	217.28
C:	31.00	130.50
D:	44.50	1722.78
E:	0.00	236.84
F:	58.50	121.85
G:	91.50	1786.65
Q:	0.00	2574.98

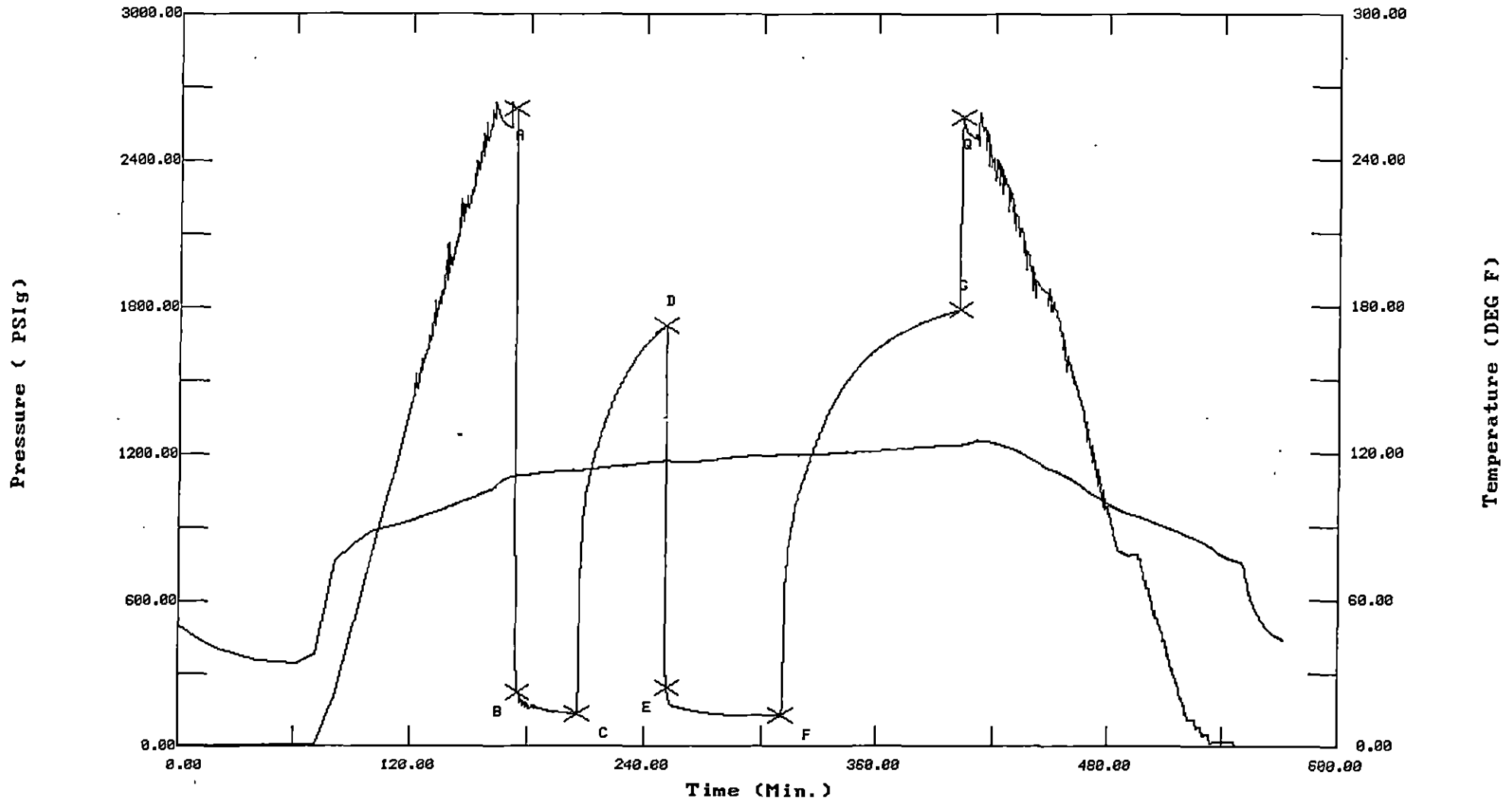
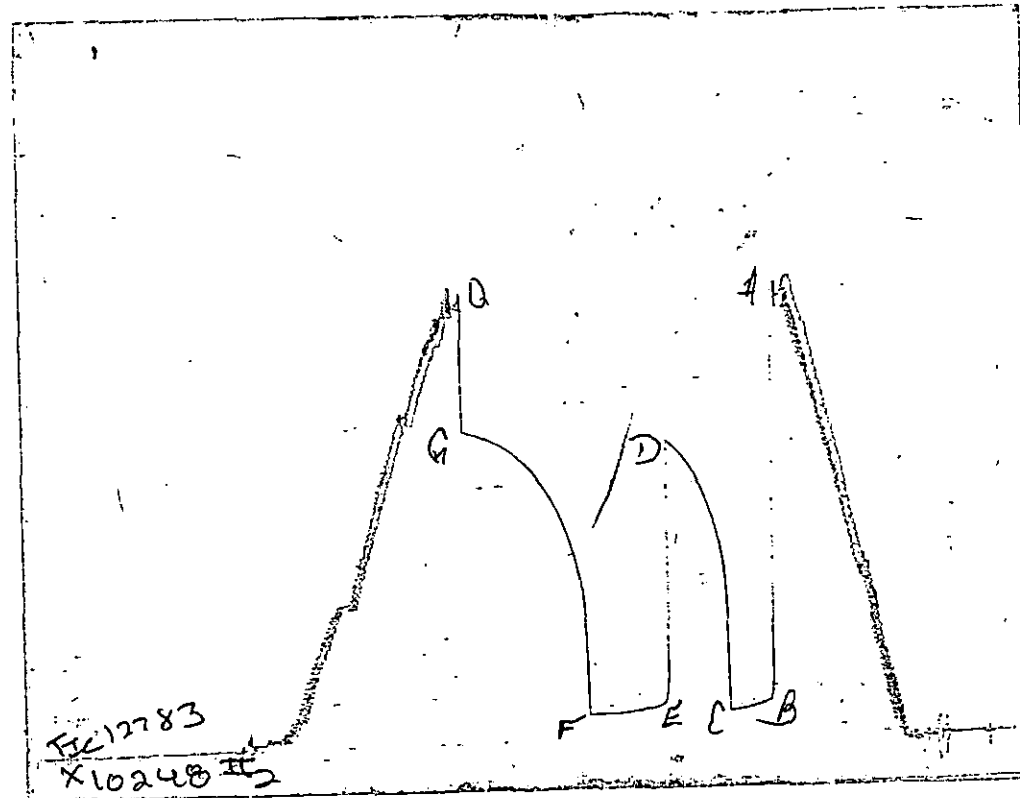


CHART PAGE



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 12783

Well Name & No. Coles #1 Test No. 2 Date 4-3-2000  
 Company Crawford Oil & Gas Inc. Zone Tested Miss  
 Address P.O. Box 51, Coldwater Ks. 67029 Elevation 1886 KB 1875 GL  
 Co. Rep/Geo. Tom Christensen Cont. Duke Dreyfus Est. Ft. of Pay 20 Por.      %  
 Location: Sec. 9 Twp. 34<sup>s</sup> Rge. 18<sup>w</sup> Co. Comanche State Ks.  
 No. of Copies 5 Distribution Sheet (Y, N) N Turnkey (Y, N) yes Evaluation (Y, N)     

Interval Tested 5285 - 5330' Initial Str Wt./Lbs. 68,000 Unseated Str Wt./Lbs. 68,000  
 Anchor Length 45' Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 80,000  
 Top Packer Depth 5280' Tool Weight 2100<sup>lb</sup>  
 Bottom Packer Depth 5285' Hole Size — 7 7/8"  Rubber Size — 6 3/4"   
 Total Depth 5330' Wt. Pipe Run None Drill Collar Run None  
 Mud Wt. 9.2 LCM 4# Vis. 53 WL 9.6cc. Drill Pipe Size 4 1/2" x H. Ft. Run 5289'  
 Blow Description IF: Strong blow. GTS in 2 1/2 mins - (see gas volume report) FSI: No blow.  
FF: Strong blow. (see gas volume report) FSI: No blow.

Recovery — Total Feet 190 GIP yes Ft. in DC      Ft. in DP 190  
 Rec. 190 Feet Of CoCM. 8 %gas %oil %water 92 %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 123 °F Gravity N/A °API D@      °F Corrected Gravity N/A °API  
 RW N.C. @      °F Chlorides 4,000 ppm Recovery Chlorides 6,000 ppm System

	AK-1	Alpine	PSI	Recorder No.	T-On Location
(A) Initial Hydrostatic Mud	2591	2608	alp.	2342	2225
(B) First Initial Flow Pressure	207	217	PSI	(depth) 5290'	T-Started 2249
(C) First Final Flow Pressure	137	130	PSI	Recorder No. 10248	T-Open 6145
(D) Initial Shut-in Pressure	1727	1723	PSI	(depth) 5327'	T-Pulled 0531
(E) Second Initial Flow Pressure	207	237	PSI	Recorder No. <u>    </u>	T-Out 0810
(F) Second Final Flow Pressure	139	122	PSI	(depth) <u>    </u>	T-Off Location 0855
(G) Final Shut-in Pressure	1793	1787	PSI	Initial Opening 30	Test <input checked="" type="checkbox"/> 800 <sup>00</sup>
(Q) Final Hydrostatic Mud	2547	2575	PSI	Initial Shut-in 45	Jars <input checked="" type="checkbox"/> 200 <sup>00</sup>
				Final Flow 60	Safety Joint <input checked="" type="checkbox"/> 50 <sup>00</sup>
				Final Shut-in 90	Straddle <u>    </u>
				4	Circ. Sub <u>    </u>
					Sampler <u>    </u>
					Extra Packer <u>    </u>
					Elec. Rec. <input checked="" type="checkbox"/> 150 <sup>00</sup>
					Mileage <u>    </u>
					Other <u>    </u>
					TOTAL PRICE \$ <u>1200<sup>00</sup></u>

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By [Signature]  
 Our Representative [Signature]