



KANSAS CORPORATION COMMISSION 1074683  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
June 2009  
Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 5455  
Name: Crawford Oil & Gas Co LLC  
Address 1: PO BOX 1366  
Address 2: 1780 JASON DR  
City: EL DORADO State: KS Zip: 67042 + \_\_\_\_\_  
Contact Person: Larry Dale Crawford  
Phone: ( 316 ) 377-3373  
CONTRACTOR: License # 33575  
Name: WW Drilling, LLC  
Wellsite Geologist: Larry Friend  
Purchaser: D&A

Designate Type of Completion:  
 New Well     Re-Entry     Workover  
 Oil     WSW     SWD     SIOW  
 Gas     D&A     ENHR     SIGW  
 OG     GSW     Temp. Abd.  
 CM (Coal Bed Methane)  
 Cathodic     Other (Core, Expl., 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     Conv. to SWD  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_  
4/28/2011    5/3/2011    5/3/2011  
Spud Date or    Date Reached TD    Completion Date or  
Recompletion Date       Recompletion Date

API No. 15 - 15-137-20561-00-00  
Spot Description: \_\_\_\_\_  
NW SW SE NW Sec. 1 Twp. 3 S. R. 25  East  West  
2209 Feet from  North /  South Line of Section  
1322 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Norton  
Lease Name: Bohl Trust Well #: 1-1  
Field Name: Wildcat  
Producing Formation: Plugged  
Elevation: Ground: 2493 Kelly Bushing: 2498  
Total Depth: 3756 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 260 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.

Drilling Fluid Management Plan  
(Data must be collected from the Reserve Pit)  
Chloride content: 31000 ppm Fluid volume: 1000 bbls  
Dewatering method used: Evaporated  
Location of fluid disposal if hauled offsite:  
Operator Name: \_\_\_\_\_  
Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_  
Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West  
County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that 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.

Submitted Electronically

**KCC Office Use ONLY**

Letter of Confidentiality Received  
Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received

Geologist Report Received

UIC Distribution

ALT  I  II  III Approved by: Deanna Gamba Date: 02/27/2012



1074683

Operator Name: Crawford Oil & Gas Co LLC Lease Name: Bohl Trust Well #: 1-1  
 Sec. 1 Twp. 3 S. R. 25  East  West County: Norton

**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 complete copy of all Electric Wire-line 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 Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run:  DI, CND, Micro	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Attached Top Attached Datum Attached
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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	# Sacks Used	Type and Percent Additives
Surface Pipe	12.25	8.625	23	260	common	165	3%cc 2% gel

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 <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  Flowing  Pumping  Gas Lift  Other (Explain) \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Crawford Oil & Gas Co LLC
Well Name	Bohl Trust 1-1
Doc ID	1074683

Tops

Stone Corral	2030	+468
Base	2058	+440
Tarkio	3120	-622
Topeka	3252	-754
Heebner	3425	-927
Lansing	3470	-972
BKC	3656	-1156
Pre-Camb. Wash	3753 sample	-1255 sample



# ALLIED CEMENTING CO., LLC. 039929

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

SERVICE POINT: Dallas, TX

DATE <u>5/1/11</u>	SEC. <u>1</u>	TWP. <u>3</u>	RANGE <u>25</u>	CALLED OUT	ON LOCATION	JOB START <u>6:00am</u>	JOB FINISH <u>7:00pm</u>
LEASE <u>Bahl Trust</u>	WELL.# <u>11</u>		LOCATION <u>Range 25 S. E. 1/4</u>		COUNTY <u>Wichita</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)							

CONTRACTOR W.W. O

TYPE OF JOB 13F

HOLE SIZE 14" T.D. \_\_\_\_\_

CASING SIZE 8" DEPTH 200'

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT \_\_\_\_\_

OWNER \_\_\_\_\_

CEMENT AMOUNT ORDERED 4 1/2 cu yds

COMMON 118 @ 16.00 1888.00

POZMIX 92 @ 2.00 184.00

GEL @ 21.00 172.00

CHLORIDE @ \_\_\_\_\_

ASC @ \_\_\_\_\_

HANDLING @ \_\_\_\_\_

MILEAGE @ \_\_\_\_\_

**EQUIPMENT**

PUMP TRUCK CEMENTER 1

# 101 HELPER \_\_\_\_\_

BULK TRUCK \_\_\_\_\_

# 96 DRIVER \_\_\_\_\_

BULK TRUCK \_\_\_\_\_

# \_\_\_\_\_ DRIVER \_\_\_\_\_

**REMARKS:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CHARGE TO: \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) 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 and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

TOTAL 2154.00

**SERVICE**

DEPTH OF JOB 200'

PUMP TRUCK CHARGE \_\_\_\_\_

EXTRA FOOTAGE @ \_\_\_\_\_

MILEAGE @ \_\_\_\_\_ 112.00

MANIFOLD @ \_\_\_\_\_

TOTAL \_\_\_\_\_

**PLUG & FLOAT EQUIPMENT**

@ \_\_\_\_\_

@ \_\_\_\_\_

@ \_\_\_\_\_

@ \_\_\_\_\_

TOTAL \_\_\_\_\_

SALES TAX (if Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

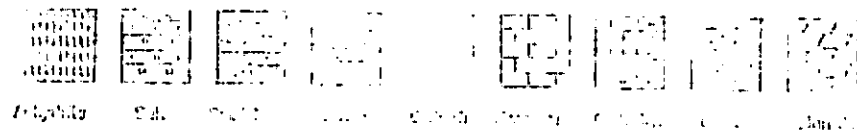
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

CRAWFORD OIL & GAS CO., LLC.		
BOHL TRUST #1-1		2498
2209 ANL #1322 FULL		2493
3 50, 25W		KB
NORTON KANSAS		
W.W. DRILLING, RIG #6		8,985 @ 261.9'
4/28/11	5/3/11	NONE
9756	3758	REAGAN SAND
2925	CHEMICAL	DT, CUD, MICRO.
	3100	TD
	2950	TD
	3100	TD
	3100	TD
GEORGE B. C. WELL EMERY P. FRIEND		
FORMATION	LOG	SURFACES
STOKE CORRAL	2030 (+470)	2028 (+470)
BASE	2058 (+470)	2058 (+470)
TARKIO	3130 (-624)	3118 (-620)
TOBERTA	3252 (-754)	3251 (-753)
HEBNER	3425 (-927)	3426 (-928)
LANJING	3470 (-972)	3468 (-970)
MUNICIPAL CREEK	3557 (+58)	N/A
ARC	3656 (+158)	3654 (+156)
FRE-CAMB. WASH. N/A		3753 (-1255)

THE MAIN TARGET FOR THIS WELL WAS THE REAGAN SAND, WHICH WAS ABSENT IN THIS WELL. THE TORONTO THROUGH KANSAS CITY CARRIED NUMEROUS SHOWS OF OIL & GAS. FROM THE LOGS THE OIL RECOVERED ON DST #1 APPEARED TO BE COMING FROM THE TORONTO. THE TORONTO WAS RETESTED WITH DST #3 AND HAD NEGATIVE RESULTS. THE "J" ZONE IN THE KANSAS CITY WAS ALSO DETERMINED TO BE AN OIL ZONE BUT WAS CONSIDERED TOO THIN TO WARRANT FURTHER TESTING. IT WAS DECIDED TO PLUG AND ABANDON THIS WELL.

RESPECTFULLY SUBMITTED,  
*Emery P. Friend*

LEGEND



SCALE



2050

BASE

2058 (+440)

2950

3000

3050

3100

TARKIO

3118 (-620)

3150

S/1 : 3482'  
S/2 : 3600'  
S/3 : 3756 RTD.

DEVIATION SURVEYS:

1/4° @ 262'  
1/4° @ 3554'

- DISPLACED MUD @  
2925'

MUD @ 2932:  
VIS: 47.  
WT: 8.8  
FLT: 8.8  
CHLR: 1000  
LCM: 1#

100' LS. TAN - GRANULAR,  
FR. F. XLN. P.; SHALE GRAY,  
MEDIUM.

10' LS. GRAY, F. XLN., SILTY, FR.  
FR. F. XLN. P.

SILTY GRAY LS + GR. SHALE.

30' LS. TAN, SILTY AND  
MEDIUM SHALE.

40' CASSEY SHALE, GR. GRAY -  
BLK. CHAL.

50' LS. TAN, FINE V. FOSSE,  
COL. FR. F. XLN. P.; SHALE,  
MEDIUM CHAL. CHAL. # 45.

60' 7" LS. TAN V. FOSSE / SOL  
M. GRAY XLN. P. FR. LS. TAN  
# 45; # 45.

70' LS. TAN, SL. FOSSE / SOL.  
FR. F. XLN. P.; # 45.

3200

3250

3300

3350

3400

TOPEKA  
3251 (-753)

85: SH. MOTT. LS TAN-BRN CHLRY  
PASS. FR. XLN. P. TO LS. GRAY,  
FILN W/ FR. XLN. P.; NS.

90: LS. GRAY-BRN DETRITAL W/  
CST. LS. F. (LONG-MEDED) FOSSILS  
IN GRAY LS. MATT. FR. FR.  
XLN. P.; NS.

TRACE IS. LAM. SLI. CHLRY W/  
ED. PIT. (VIG.) ABUNDANT  
FO. ON BRK. SOFT. SAT. STN.  
SLI. ODR. ON BRK. LOOKS TIE-  
TABLE PERM. - CALCULATES WET ON LOG.

10: LS. TAN. PASS. W/ FR.  
XLN. P.; SH. MATT. GRAY CHLRY  
GARD; SH. MATT. GRAY, NS.

20: TR. LS. TAN. PASS. GLAUC.  
FR. XLN. P.; SHALE; NS.

30: LS. GRAY-TAN FILN. SLI.  
PASS. W/ FR. XLN. P.; NS.

50: SH. MOTT. GRAY CHLRY LS.  
LS. TAN. SLI. PASS. W/ FR. XLN. P.;  
NS. NO FLOOD.

60: LT. GRAY. SILTY LS. GRAY.  
SHALE. TR. MATT. GRAY  
SLT. TO V. FR. GRAY, LOY; NS.

70: LS. GRAY-TAN FILN. FR.  
P. TR. PASS. (VIG. W) FR.  
XLN. P.; NS.

80: LS. TAN. TR. FR. XLN. P.  
SH. MOTT. GRAY CHLRY LS; NS.

90: LS. TAN. PASS. FILN W/ FR.  
PASS. CAST. P.; NS.

100: TR. LS. V. PASS. W/ FR.  
PASS. CAST. P. AND LAY.  
SLT. TH. CLEAN, TITR.; NS.

101: DUSTY GRAY SHALE.

20: LS. TAN. SLI. PASS. W/ FR.  
FR. PASS. CAST. VIG. P.  
CALCITE. REL; NS. NO FLOOD.

30: LS. AS ABN. AND LS. GRAY  
CHLRY; NS.

40: LS. TAN. FILN. FR. LT. FR.  
XLN. P. SOFT. CHLRY. TR. BRN.  
- BRN. SH. CHLRY; NS.

50: SOFT. CHLRY. AS ABN. LS.  
TAN. FILN. FR. FR. XLN. P.; NS.

60: LS. LT. GRAY-TAN W/ FR.  
LT. FR. XLN. P.; NS.

70: TR. SHALE. SLI. CARB.  
LS. BRN. PASS. SLI. CALCITIC.  
SLI. SHLY. TR. LAY. SST. V. FR.  
GARD. FRIMBLE; NS.

80: SHALE. BRN. GRAY.  
LS. TAN. FR. P.; NS.

90: LS. TAN. SLI. PASS. TR. PASS.  
CAST. VIG. P. - SOME CALCITE  
FILLED; NS.

100: LS. GRAY-TAN, GLAUC. FR. P.  
NS.

110: LS. TAN. SLI. PASS. FR. P.; NS.

200: LS. AS ABN.

30: LS. TAN. SLI. CHLRY. SLI.  
CALCITIC. FR. FR. XLN. P. TR.  
CST. GRAY. SHY; NS.

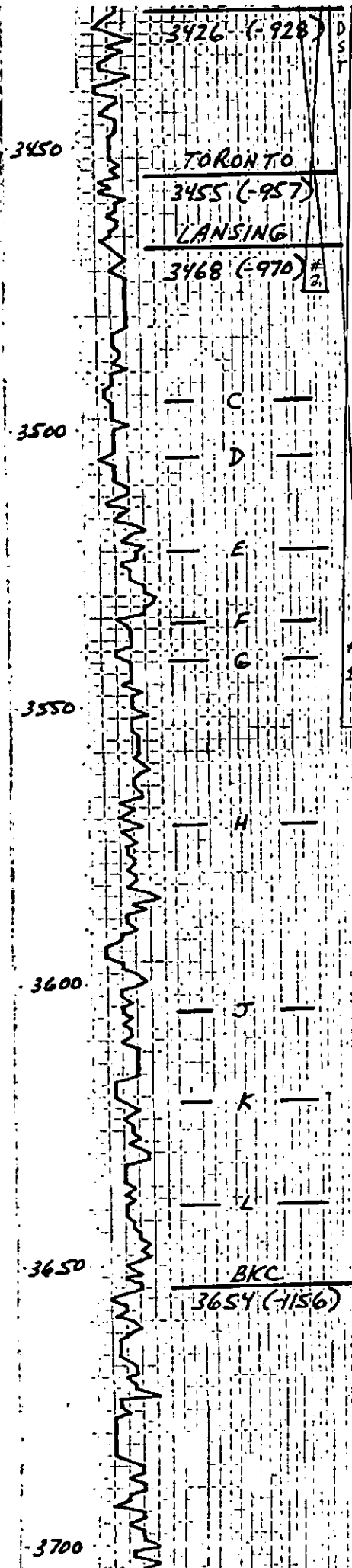
40: SHALE. BLK. CARB.

MWD @ 3405:  
VIS: 51  
WT: 9.3  
FILT. B.O  
CALOR: 1,000  
LCM: 1 #

DST #1  
(3420-3554)  
TIRES: 5-30-60-90  
IF: BUILT TO 4 1/2" BLOW  
FF: BLOW OFF BOTTOM  
IN 28"  
NO BLOWBACK

HEEBNER  
3497 1.998





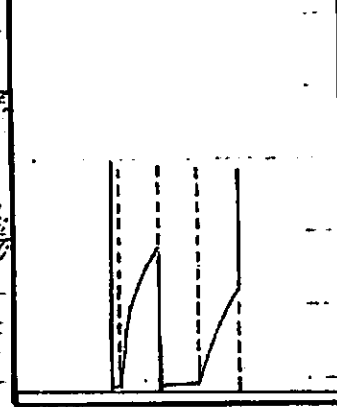
SD: LS. BAN, VF. FOLN, PRP;  
 15.  
 CO: MAROON SHALE + MAROON LAY. SILTSTN.  
 SA. INT. LS. FOS. / ARGENTINE  
 N. PR. PR. INT. FLAG. PR. INT.  
 F. FSD. + G. SPY. TR. TOTAL  
 SAT. STN., SLI. OADR.  
 TR. LS. CR. TAN. V. OOLITIC W/ PR.  
 PR. INT. OOL. PR. + XLM. LS.  
 SFD. SPY. SAT. STN. TR. TOTAL  
 SAT. STN.  
 10: SHALE, GRAY, MAR. SOME  
 LAY.  
 LS. V. OOL. / FOS. W/ PR. PR. INT.  
 OOL. INT. V. MAROON TITE FSG.  
 PRSD. LITE STN. IN LET. TOTAL  
 GRN. SAT. STN. ALSO CR. SILTSTN.  
 LS. W/ FSD. + SPY. TR. SAT. STN.  
 LS. CR. FOS. W/ PR. PR. INT.  
 FOS. CRST. SLI. P. SFD. + G.  
 CHERT, TAN. GRG, SAP, NS  
 TR. LS. CR. PR. PR. P. SFD. SPY.  
 SAT. STN., NO. OADR.  
 TR. LS. V. OOLITIC W/ PR. CR. OOL.  
 PR. INT. OOL. PR. P. S-FSD. + G.  
 SPY. SAT. STN., NO. OADR.  
 TR. CR. LS. V. OOLITIC W/ PR.  
 INT. OOL. PR. P. S-FSD. + SPY.  
 SAT. STN., NO. OADR.  
 LS. GR. V. FILL, DSC; NS  
 SHALE, V. COLORED  
 LS. CR. SILT. CR. FOS. / OOL.  
 W/ PR. TR. CR. INT. PR. PR.  
 W/LS. VSSFO. SPY. STN., NO.  
 OADR.  
 V. COLORED SHALE. TR. PR. INT.  
 TR. STN., CR. TAN. ANG. PR.  
 SAT. STN., PR. INT., NS.  
 LS. CR. V. OOL. TO FOS. PR. TR.  
 PR. INT. OOL. TR. INT. PR. INT.  
 PR. INT. PR. SPY. TO MAROON PR.  
 GRN. SAT. STN. TR. CR. TAN. V.  
 STN., NS, NO. OADR.  
 TR. LS. CR. OOL. / FOS. W/ PR.  
 TR. PR. INT. FOS. CRST. V.  
 VSSFO. SPY. STN.; NO. OADR.  
 GRN. CR. PR. LS. CR. TAN. SILT.  
 FOS. W/ TR. PR. INT. FOS. CRST.  
 P. SPY. STN., PR. W/ TR. PR.  
 NO. OADR.  
 SHALE MAROON + GRAY, TR.  
 LAY. TITE. SST.  
 90: LS. CR. BAN. SILT. FOS. V.  
 SILT. CR. CR. NS.  
 100: SHALE MAROON, GRAY AND  
 LS. BAN. FOS. / OOL. PR. TR. PR.  
 XLM. P, NS.  
 10: LS. CR. SILTY SILT. CR. V.  
 TO V. LAY. SILTSTN.  
 10: TR. CR. MAROON GRAY

NO BLOWBACK  
 REC: 202' TOTAL FLUID;  
 15' OM (17% G, 46% OIL)  
 63' OCM (5% G, 25% OIL)  
 124' GSY OCM (14% GAS,  
 36% OIL)  
 50' GAS IN PIPE.  
 IFP: 47-61 #  
 FFP: 79-105 #  
 SIP: 1043-808 #



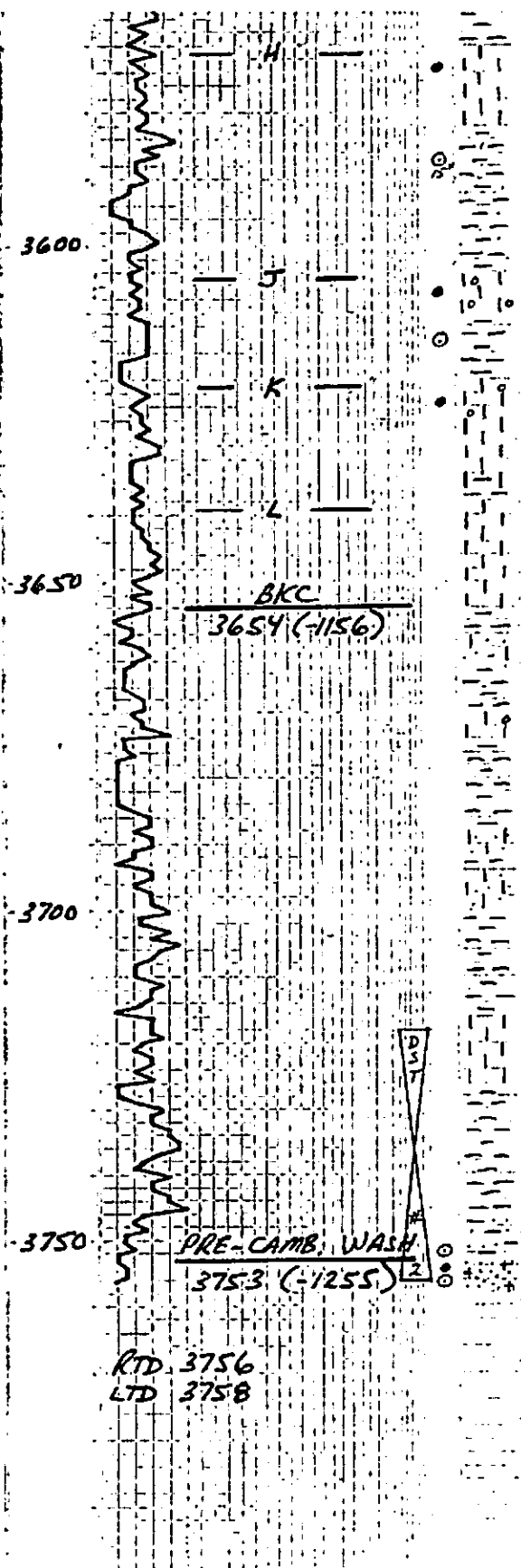
BHT: 99°  
 PIPE STRAP @ 3554;  
 1.18' LONG TO BOARD.

DST #3  
 3419-3476  
 STRADDLE TEST.  
 TIMES: 5-30-30-30  
 IF: BUILT TO 1" BLOW  
 FF: NO BLOW FLUSHED  
 TOOL @ 15", REC. WEAK  
 SURFACE BLOW - DEAD  
 AT 25".  
 NO BLOWBACK.  
 REC: 20' DRLG. MUD,  
 TRACE OIL IN TOOL.  
 IFP: 18-21 #  
 FFP: 23-33 #  
 SIP: 966-677 #  
 BHT: 99°



MUD @ 3666:  
 VIS: 56  
 WT: 9.4  
 FLT: 8.8  
 CHLR: 1,000  
 LCM: 1 #

DST #2  
 (3718-3756)  
 TIMES: 5-30-30-45  
 IF: BLOW OFF BTM 2 1/2"  
 FF: BLOW OFF BTM 4"  
 REC: 515' TOTAL FLUID;



LS. CR. SILTY FSS. / CL.  
 W. P. TR. PA. INTER-FSS. PPT  
 VLS. P. VSSFO, SPTX. STN. NO  
 OADR.

FFP: 23-33#  
 SP: 966-677#  
 BHT: 99°

V. COLORED SHALE. TR. PIRITE  
 TR. SST. CL. SUBANG. FL.  
 SORT. FRIB. NS.

LS. CR. V. OIL TO FSS. FL. TR.  
 TR. INTER-CL. TO INTER-FSS.  
 PPT. VLS. P. SPTX. TO NEAL. SST.  
 BKA. SPTX. STN. TR. BLK. TRAVEL  
 STN. NFO. NO OADR.

TR. LS. CR. / FSS. / PA.  
 TR. PA. PPT-FSS. CR. P.  
 VSSFO, SPTX. STN. NO OADR.

ONLY CR. P. LS. CR. TAN. SIL.  
 FSS. W. TR. PA. PPT-FSS. CR. P.  
 P. SPTX. STN. 1 PC. W. TR. P.  
 NO OADR.

SHALE MARON + GRV. TR.  
 LCM. SPT. SST.

MUD @ 3666:  
 VIS: 56  
 WT: 9.4  
 FLT: 8.8  
 CHLOR: 1,000  
 LCM: 1#

90: LS. CR. BKA. SIL. FSS. V.  
 SIL. GRV. NS.

NO: SHALE MARON, GRV AND  
 LS. BKA. FSS. / CL. PA. TR. FL.  
 XLM. P. NS.

DST # 2  
 (3718 - 3756)  
 TIMES: 5-30-30-45  
 IF: BLOW OFF BTM 2 1/2"  
 FF: BLOW OFF BTM 4"  
 REC: SIS' TOTAL FLUID:  
 145' MDY WTR W/TRACE  
 OIL, (53% WTR)  
 370' MGLU (80% WTR)  
 WTR CHLOR: 27,500 PPM  
 MUD CHLOR: 1,000 PPM  
 RW: .395 @ 44.8°F  
 IFP: 122-127#  
 FFP: 159-251#  
 SIP: 819-701#  
 BHT: 104°

10: LS. CR. SILTY SIL. CL. GRV  
 TO V. LMY. SILTY.

20: TR. SHALE MARON, GRV

30: LS. CR. LT. PURPLE PA.  
 FL. RAN. P. SHALE, PURPLE.

40: STICKY MARON SHALE P.  
 CR. CLAY LS.

50: SPT. STICKY MAR. SH.

15' AS ABV.

45-52:  
 SHALE V. CL. RED FV. AD. D. GRV  
 CL. AND SUBANG. TR. CL. SIL.  
 CL. AND SST. V. AD. SUBANG. PPT. SPT. TITE. NS.

53-56: USE OTZ. PEBBLES W/ TR. BLK. TRAVEL SPT. NEAL. V. GRV  
 GRV, CL. W/ SPT. ON. BKA. SH. PPT. MAR. V. TR. ST. CL. AND

MUD @ 3756:  
 VIS: 53  
 WT: 9.3  
 FLT: 8.8  
 CHLOR: 1,000  
 LCM: 1#

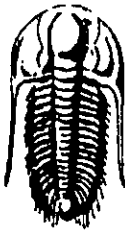
RTD 3756  
 LTD 3758

PRE-CAMB. WASH.  
 3753 (-1255)

DEPTH DRILLING TIME (min) / (hr) ...

COMPANY CRAWFORD OIL & GAS CO., LLC  
 LEASE BOHL TRUST 1-1  
 LOCATION 2209 FNC. SEC. 1 T. 35S. R. 25W  
 COUNTY NORTON STATE KANSAS

2498 KB



**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Crawford Oil & Gas Co., LLC

**Bohl Trust #1-1**

1780 Jason Dr.  
El Dorado, KS 67042

**1/3s/25w Norton KS**

Job Ticket: 041999

**DST#: 1**

ATTN: Larry Friend

Test Start: 2011.05.01 @ 20:05:00

**GENERAL INFORMATION:**

Formation: **Toronto - Lans. G**  
 Deviated: **No Whipstock:** ft (KB)  
 Time Tool Opened: 21:29:30  
 Time Test Ended: 02:28:30

Test Type: **Conventional Bottom Hole**  
 Tester: **James Winder**  
 Unit No: **46**

Interval: **3420.00 ft (KB) To 3554.00 ft (KB) (TVD)**  
 Total Depth: **3554.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2493.00 ft (KB)**  
**2488.00 ft (CF)**  
 KB to GR/CF: **5.00 ft**

**Serial #: 8366**

**Inside**

Press@RunDepth: **104.50 psig @ 3421.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.05.01**

End Date:

**2011.05.02**

Last Calib.: **2011.05.02**

Start Time: **20:05:05**

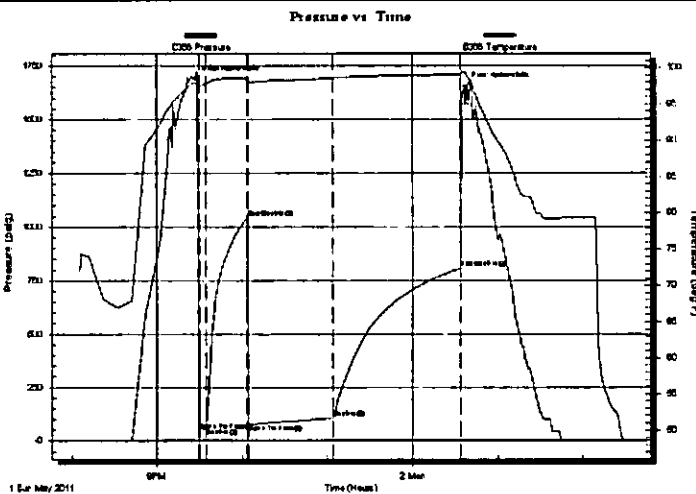
End Time:

**02:28:29**

Time On Btm: **2011.05.01 @ 21:27:00**

Time Off Btm: **2011.05.02 @ 00:37:00**

**TEST COMMENT:** IF: 1" blow at open, built to 4 1/4"  
 IS: No blow back  
 FF: Blow built to BOB (11") in 28 min.  
 FS: No blow back



**PRESSURE SUMMARY**

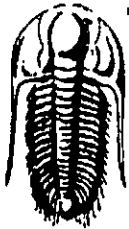
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1688.32	97.90	Initial Hydro-static
3	47.10	97.61	Open To Flow (1)
7	61.20	97.77	Shut-In(1)
37	1043.09	98.59	End Shut-In(1)
38	79.20	98.16	Open To Flow (2)
97	104.50	98.63	Shut-In(2)
187	807.56	99.07	End Shut-In(2)
190	1654.80	99.46	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
124.00	GOM 50% m, 36% o, 14% g	0.61
63.00	OCM 70% m, 25% o, 5% g	0.88
15.00	OM 53% m, 46% o, 1% g	0.21
0.00	GIP = 50'	0.00

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Crawford Oil & Gas Co., LLC

**Bohl Trust #1-1**

1780 Jason Dr.  
E Dorado, KS 67042

**1/3s/25w Norton KS**

Job Ticket: 041999

**DST#: 1**

ATTN: Larry Friend

Test Start: 2011.05.01 @ 20:05:00

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 51.00 sec/qt  
Water Loss: 7.98 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 1000.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
124.00	GOM 50% <i>m</i> , 36% <i>o</i> , 14% <i>g</i>	0.610
63.00	OCM 70% <i>m</i> , 25% <i>o</i> , 5% <i>g</i>	0.884
15.00	OM 53% <i>m</i> , 46% <i>o</i> , 1% <i>g</i>	0.210
0.00	GIP = 50'	0.000

Total Length: 202.00 ft      Total Volume: 1.704 bbl

Num Fluid Samples: 0

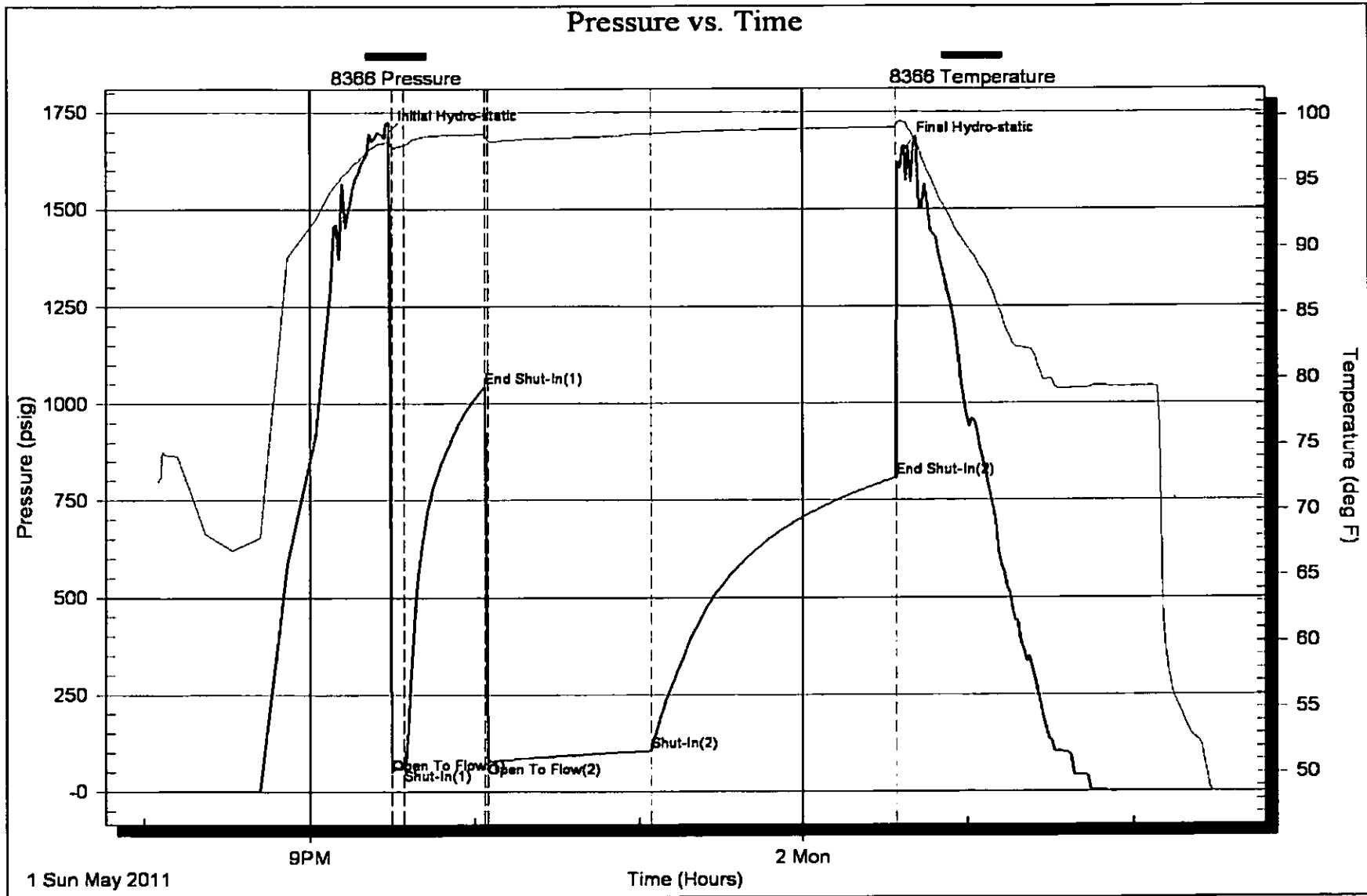
Num Gas Bombs: 0

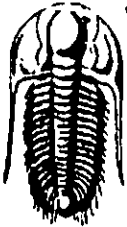
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Crawford Oil & Gas Co., LLC  
 1780 Jason Dr.  
 El Dorado, KS 67042  
 ATTN: Larry Friend

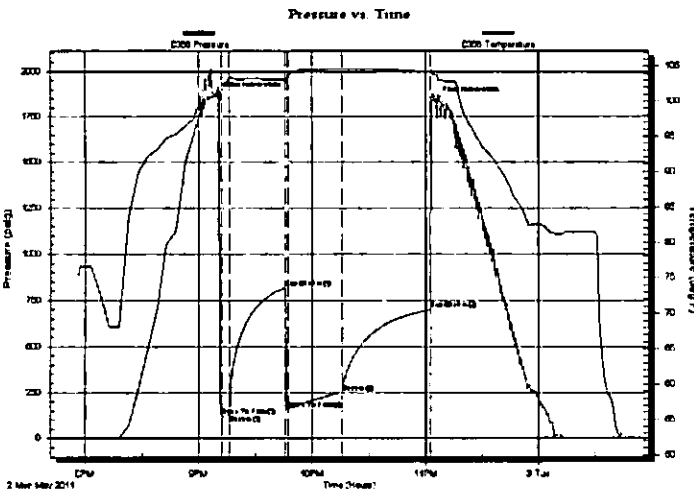
**Bohl Trust #1-1**  
**1/3s/25w Norton KS**  
 Job Ticket: 042000 **DST#: 2**  
 Test Start: 2011.05.02 @ 19:56:00

**GENERAL INFORMATION:**

Formation: **Granite Wash**  
 Deviated: **No** Whipstock: **ft (KB)**  
 Time Tool Opened: 21:12:30  
 Time Test Ended: 00:44:00  
 Test Type: **Conventional Bottom Hole**  
 Tester: **James Winder**  
 Unit No: **46**  
 Interval: **3718.00 ft (KB) To 3756.00 ft (KB) (TVD)**  
 Reference Elevations: **2493.00 ft (KB)**  
 Total Depth: **3756.00 ft (KB) (TVD)**  
**2488.00 ft (CF)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 KB to GR/CF: **5.00 ft**

**Serial #: 8366** **Inside**  
 Press@RunDepth: **250.67 psig @ 3719.00 ft (KB)**  
 Capacity: **8000.00 psig**  
 Start Date: **2011.05.02** End Date: **2011.05.03** Last Calib.: **2011.05.03**  
 Start Time: **19:56:05** End Time: **00:43:59** Time On Btm: **2011.05.02 @ 21:10:00**  
 Time Off Btm: **2011.05.02 @ 23:05:30**

**TEST COMMENT:** IF: Blow built to BOB (11") in 2 1/2 min.  
 IS: No blow back  
 FF: Blow built to BOB in 4 min.  
 FS: No blow back



**PRESSURE SUMMARY**

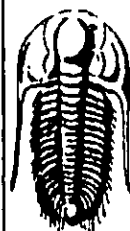
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1864.84	100.78	Initial Hydro-static
3	122.02	102.34	Open To Flow (1)
7	127.16	103.25	Shut-In(1)
36	818.65	103.09	End Shut-In(1)
38	158.74	103.30	Open To Flow (2)
66	250.67	104.61	Shut-In(2)
113	700.76	104.30	End Shut-In(2)
116	1838.94	103.87	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
370.00	MCW 80%w , 20%m	4.06
145.00	MW w/trace of oil 53%w , 47%m	2.03

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

### DRILL STEM TEST REPORT

### FLUID SUMMARY

Crawford Oil & Gas Co., LLC

**Bohl Trust #1-1**

1780 Jason Dr.  
El Dorado, KS 67042

**1/3s/25w Norton KS**

Job Ticket: 042000

**DST#: 2**

ATTN: Larry Friend

Test Start: 2011.05.02 @ 19:56:00

#### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

27500 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

#### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
370.00	MCW 80%w , 20%m	4.061
145.00	MW w /trace of oil 53%w , 47%m	2.034

Total Length: 515.00 ft

Total Volume: 6.095 bbl

Num Fluid Samples: 0

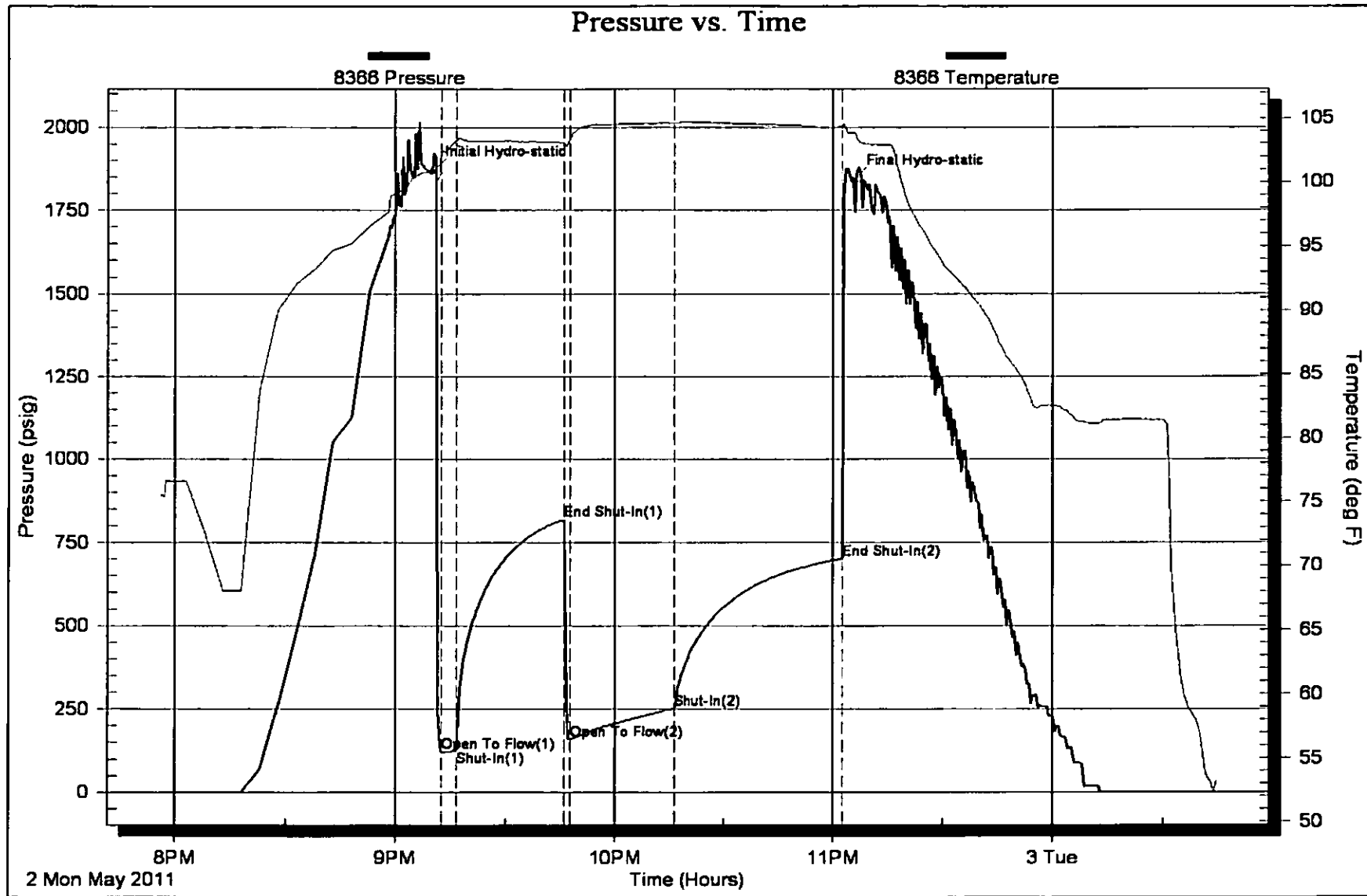
Num Gas Bombs: 0

Serial #:

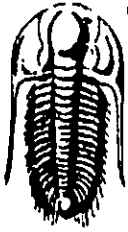
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .395 ohms @ 44.8 deg F Chlorides = 27,500







**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Crawford Oil & Gas Co., LLC

**Bohl Trust #1-1**

1780 Jason Dr.  
El Dorado, KS 67042

**1/3s/25w Norton KS**

Job Ticket: 042001

**DST#: 3**

ATTN: Larry Friend

Test Start: 2011.05.03 @ 08:37:00

### GENERAL INFORMATION:

Formation: **Toronto**

Deviated: **No Whipstock:** ft (KB)

Time Tool Opened: 10:18:00

Time Test Ended: 13:30:30

Test Type: **Conventional Straddle**

Tester: **James Winder**

Unit No: **46**

Interval: **3419.00 ft (KB) To 3476.00 ft (KB) (TVD)**

Reference Elevations: **2493.00 ft (KB)**

Total Depth: **3757.00 ft (KB) (TVD)**

**2488.00 ft (CF)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

KB to GR/CF: **5.00 ft**

**Serial #: 8366**

**Inside**

Press@RunDepth: **33.06 psig @ 3420.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.05.03**

End Date:

**2011.05.03**

Last Calib.: **2011.05.03**

Start Time: **08:37:05**

End Time:

**13:30:29**

Time On Btm: **2011.05.03 @ 10:15:30**

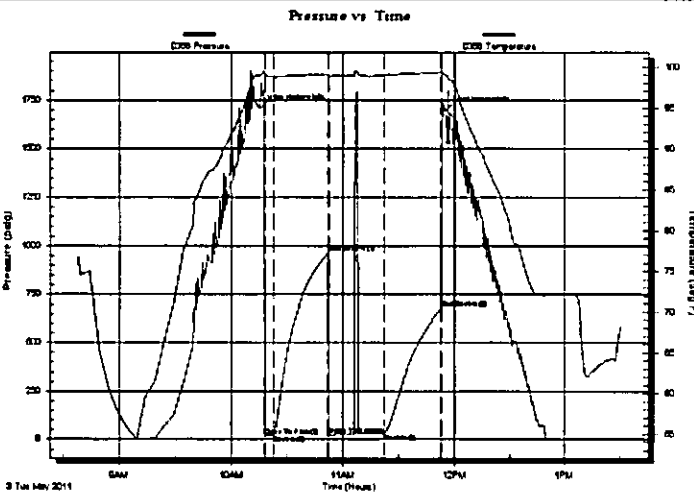
Time Off Btm: **2011.05.03 @ 11:55:30**

**TEST COMMENT:** IF: 1/4" Blow at open, built to 1"

IS: No blow back

FF: No blow, Flushed tool at 15 min., Surface blow till 25 min., then dead

FS: No blow back



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1710.31	98.97	Initial Hydro-static
3	18.17	98.99	Open To Flow (1)
7	20.77	98.78	Shut-In(1)
37	966.38	99.08	End Shut-In(1)
38	22.67	98.72	Open To Flow (2)
67	33.06	99.00	Shut-In(2)
98	676.92	99.30	End Shut-In(2)
100	1701.13	98.99	Final Hydro-static

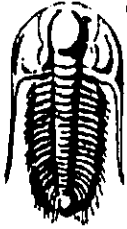
### Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100%	0.10
0.00	Trace of Oil in tool	0.00

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Crawford Oil & Gas Co., LLC

**Bohl Trust #1-1**

1780 Jason Dr.  
El Dorado, KS 67042

**1/3s/25w Norton KS**

Job Ticket: 042001

**DST#: 3**

ATTN: Larry Friend

Test Start: 2011.05.03 @ 08:37:00

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud 100%	0.098
0.00	Trace of Oil in tool	0.000

Total Length: 20.00 ft

Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

