



KANSAS CORPORATION COMMISSION 1094515
OIL & GAS CONSERVATION DIVISION

Form AGO-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: dry

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 #: _____

<u>11/11/2011</u>	<u>11/16/2011</u>	<u>11/16/2011</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-137-20590-00-00

Spot Description: _____
SE NE NW SW Sec. 35 Twp. 3 S. R. 22 East West
2083 Feet from North / South Line of Section
992 Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

County: Norton

Lease Name: Townsend Well #: 1-35

Field Name: wild cat

Producing Formation: dry

Elevation: Ground: 2353 Kelly Bushing: 2343

Total Depth: 3885 Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: 219 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: 1000 ppm Fluid volume: 320 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: NAOMI JAMES Date: 09/27/2012



1094515

Operator Name: Crawford Oil & Gas Co LLC Lease Name: Townsend Well #: 1-35
 Sec. 35 Twp. 3 S. R. 22 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 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample Name Attached Top Attached Datum Attached
---	---

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	12.25	8.625	23	219	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

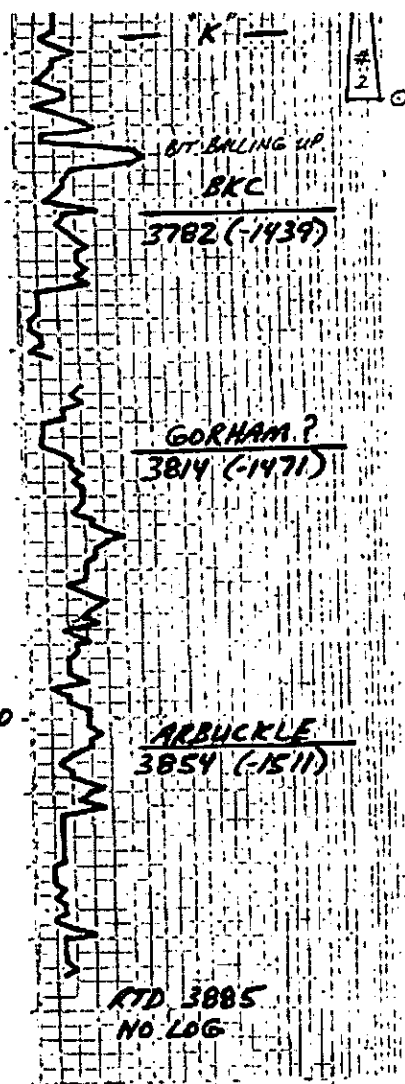
TUBING RECORD:		Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
Date of First, Resumed Production, SWD or ENHR.			Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____		
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

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: _____ _____
---	---	--

Form	ACO1 - Well Completion
Operator	Crawford Oil & Gas Co LLC
Well Name	Townsend 1-35
Doc ID	1094515

Tops

Stone Corral	2033	+310
Base	2062	+281
Tokepa	3343	-1000
Heebner	3549	-1206
Lansing	3592	-1249
BKC	3782	-1439
Gorham	3814	-1471
Arbuckle	3854	-1511



#2
 3782 (-1439)
 3814 (-1471)
 3854 (-1511)
 RTD 3885
 NO LOG

LS. CR. V. OR. SAND SIL. CLAY
 SIL. CLAY, FINE GR. INTER. OR.
 FINE GR. SIL. SAND, SPT. STN.
 SPT. STN. DR. RESID. STN. NO
 LOG.

SHALE
 LS. CR. V. OR. / FINE SIL. CLAY
 ASE. W/ TR. DR. SPT. STN. TO
 LS. CR. TR. OR. / FINE SIL. CLAY
 SPT. STN. NO LOG.

TR. SPT. LAY. SPT. STN. TR.
 PYRITE

LS. SAND FINE TO SILTY
 SAND. DR. CHALK, FINE GR. NO
 TR. SIL. LAM. SILTY, SH. GRAY
 LS. CR. V. OR. SIL. CLAY, PR
 INTER. OR. SPT. STN. (30)
 W/ SPT. DR. SPT. DR. RES. STN.
 SIL. SAND.

LS. CR. TR. FINE SIL. SILTY
 SIL. CLAY, PR. FINE GR. NO LOG.

LS. TR. FINE SIL. SAND / DETRITUS
 PR. CR. TR. NO LOG.

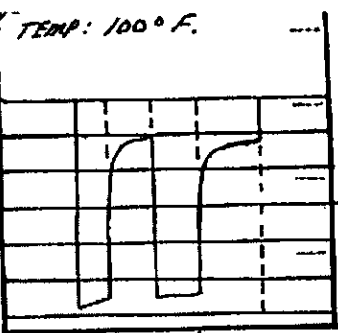
FINE GR. SANDS (SPT. REACTS VIGOROUSLY IN ACID)
 TO DR. CR. TR. FINE GR. SANDS
 WELL GR. FINE GR. SANDS, STICKY
 FO. DR. SAND, SPT. STN. AND FR. INT. ESE, LOOSE, SAND QZ GRANS.

-LS. SIL. SAND, CHTY, ASE. TR. W/ PR. FINE GR. CUT, NO SPT. DR. STN.

-CHTY DETRITUS, CR. TR. SAND
 NO. FINE GR. SAND, TR. V. OR. SAND
 SOME SIL. CLAY, TR. FINE GR. SAND.

DR. SPT. TR. SIL. CLAY, V.
 FINE GR. SAND, SIL. SAND, GR. SAND
 NO LOG.

DR. V. OR. SAND, TR. SAND, ASE. TO
 TR. FINE GR. SAND, DR. SPT. STN.
 NO LOG.



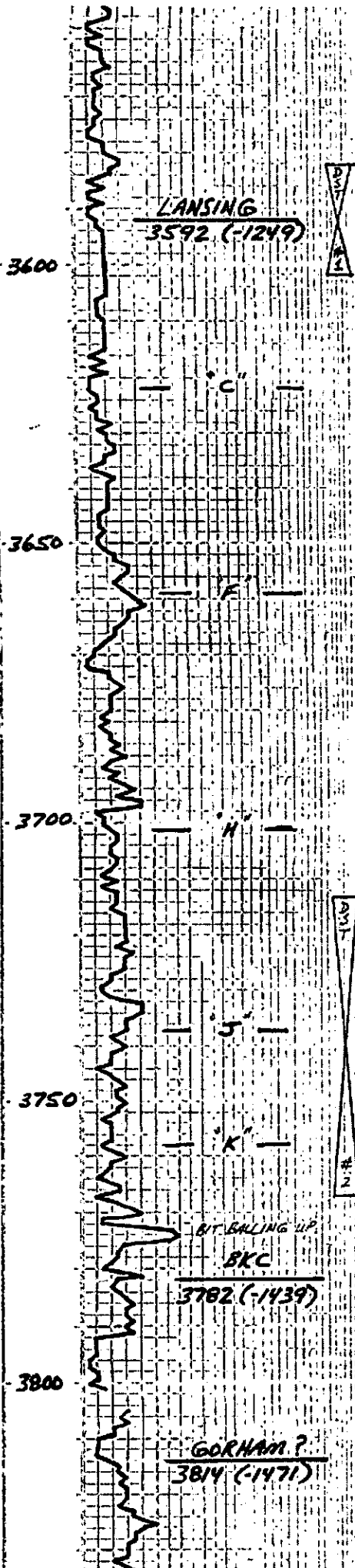
← BIT BALLED UP -
 IN ACCURATE DRILL TIME.
 MUCH RED BEDS IN SANDS
 AFTER DST #2.

MUD @ 3767:
 VIS: 50, WT: 9.4
 FILT: 5.6, CHLOR: 3,100
 LCM: 1 #

DEPTH	DRILLING TIME	REMARKS
	Minutes/Foot	

COMPANY CRAWFORD OIL & GAS CO., LLC
 LEASE TOWNSEND 1-35
 LOCATION 2083 FSL 992 FUL SEC 35, T11N 35S, R12W
 COUNTY NORTON STATE KS

2343 KB



LS. BRN, V. FINE, DSE.

SHALE, GRAY, RED.

SH. INT. CUT. THIN BAN. SHIP.
4" BAN. BRN, SLI. FINE, PR.
KLN. P.; NS.

SHALE, MARRON, GRAY.

SPY. PCS (15) LS. GRAY V. DOL.
W. PR. TR. INT. BAN. SHIP.
SP. OF G. BAN. SHIP.
STN. NO. BAN.

LS. GRAY-BRN V. FINE, DSE.
LIT. PR. TR. BAN. - LIT. SLI.
CHKY, TR. SPY. STN.

SHALE, MARRON, GRAY.

CHEST GRAY-BRN SHIP. TR. LS.
GRAY V. FINE, DOL. W. PR. KLN. B.
SOME SLI. CUTY W. SPY. STN.

LS. THIN V. FINE, DSE. TR. SLI.
FINE, TR. CUT. TR. PR. V. PR. LS.
TR. PR. SP. BAN. BRN. CRONA. ADV. P.

SH. INT. LS. GRAY-BRN, V. FINE, TR.
DOL. FINE, PR. FINE, TR. PR. PR.
TR. TR. GRAY-BRN, SLI. CHKY, TR. PR.
BAN. TR. BAN. SLI. CHKY, TR. PR.
BAN. TR. BAN. SPAS. SHALE, NS.

LS. GRAY-BRN, V. FINE, DSE. TR.
SLI. FINE, TR. SLI. CHKY, TR.
LS. YELL. BRN. FINE, TR. PR.
LS. TR. PR. BAN. PR. MARRON. FINE, TR.
NS.

LS. GRAY V. FINE, DOL. W. PR.
TR. PR. DOL. W. PR. LAST PR.
MUD. LS. GRAY CHKY, NS.

CHEST GRAY-BRN SHIP. TR.
BAN. DSE. CUTY. LS. TR. GRAY.
CHKY. LS., NS.

SHALE, DK. GRAY.

LS. BRN. DOL. BAN. V. DOL. FINE
DSE - PR. KLN. B. SOME CUTY.
NS. ADV. GRAY-BRN, SHIP. NS.

LS. GRAY-BRN. FINE, FINE, DOL.
W. PR. PR. KLN. B. SOME TR.
CUTY, NS.

LIT. SHALE, GRAY + GRN.

LS. GRAY-LT. GRAY V. FINE
PR. LIT. PR. KLN. B., NS.

DK. SHALE, GRAY, GRN, MARR.

LS. GRAY V. DOL. W. PR. MARRON. PR.
INTER. BAN. PR. SPY. STN. TR.
BAN. STN. NS. ADV.

SHALE, GRAY, GRN, MARRON.

LS. GRAY V. DOL. SOME SLI. MARRON.
SLI. CHKY. PR. PR. INTER. BAN.
PR. PR. SPY. STN. TR. BAN.
STN. TR. BAN. RED. STN. NO
DOL.

SHALE

LS. BRN V. DOL. FINE, SLI. CHKY.
DSE. TR. PR. SPY. STN. TR.
LS. GRAY-BRN, FINE, TR. PR.
KLN. P.; NS.

TR. SOFT LIT. SET. STN. TR.
MARR.

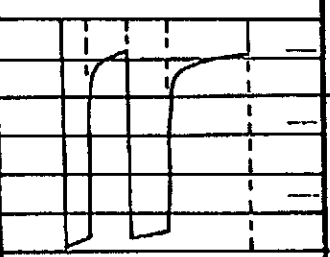
LS. MARRON FINE, TR. SLI. CHKY,
SOME SLI. CHKY, TR. PR. NS.

TR. SLI. CHKY, TR. SLI. CHKY, GRAY.

LS. GRAY V. DOL. SLI. CHKY, PR.
INTER. BAN. PR. PR. SPY. STN. TR.
NS. ADV. PR. SPY. STN. TR. BAN.
STN. ADV.

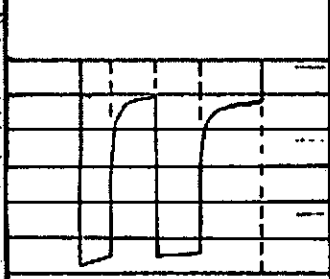
LS. GRAY-BRN FINE, SLI. CHKY,
SLI. CHKY, PR. FINE, TR. PR. NS.

3582-3602
(STRADDLE FROM 3636)
TIMES: 30-45-45-90
IF: BLOW BUILT TO 4"
FF: BLOW BUILT TO 6 1/2"
NO RETURN BLOW
REC: 1' FREE OIL
184' MDY WTR (90% WTR)
5' DRLG. MUD.
WTR CHLOR: 67,000 PPM
SYSTEM: 2,100 PPM
(RW: .174 @ 47° F.)
IFP: 16-70, FFP: 73-104 #
SIP: 1274-1265 #
TEMP: 99° F.

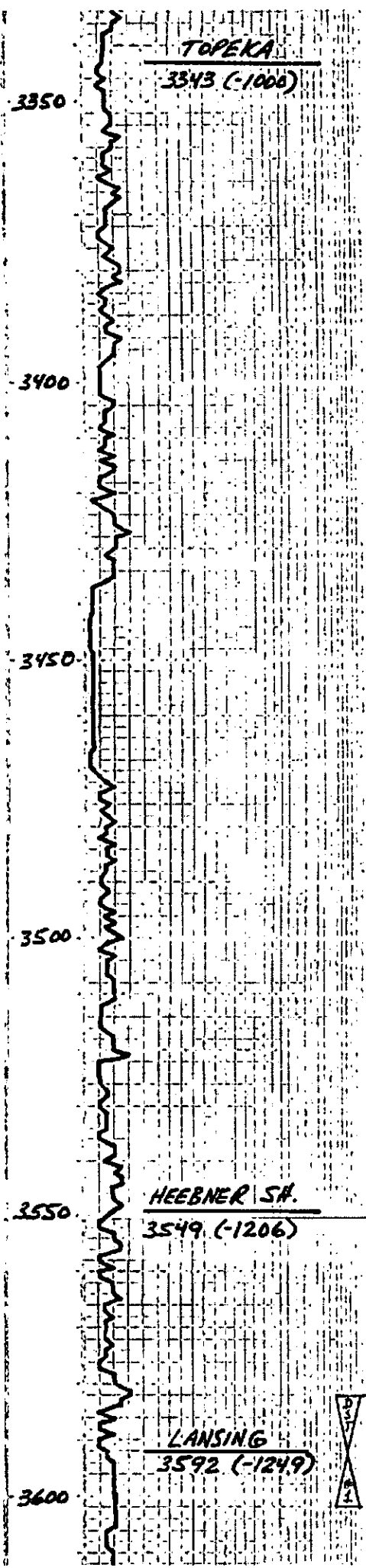


PIPE STRAP @ 3636'
1.15' LONG TO BOARD.

DST #2
3713 - 3767
TIMES: 30-45-45-60
IF: BLOW BUILT TO 5 1/2"
FF: BLOW BUILT TO 6 1/2"
NO RETURN BLOW
REC: 210' TOTAL FLUID:
55' DRLG. MUD,
135' MDY WTR (85% W.)
20' DRLG. MUD.
WTR. CHLOR: 56,000 PPM
SYSTEM: 2,100 PPM
(RW: .172 @ 57° F.)
IFP: 33-93, FFP: 99-127 #
SIP: 1207-1182 #
TEMP: 100° F.



← BIT BALLED UP -
IN ACCURATE DRILL TIME.
MUCH RED BEDS IN SAMPLES
AFTER DST #2.
MUD @ 3767:
VIS: 50, WT: 9.4
FLT: 5.6, CHLOR: 3,100
LCM: 1 #.



80: TR. LS. CR. V. OIL/FAS/GR. FILLIN P. - SOME V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

100: LS. CR. BDN. TAN SILTY TR. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

20: RED F. GR. SHALE SILTY LS. TAN. BDN. V. FILN. P. & LS. GRN. DSE.; NS.

40: LS. CR. V. OIL/FAS/GR. FILLIN P. - SOME V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

60: LS. TAN. BDN. V. FILN. SILTY DSE.; SOME RED & GR. SHALE NS.

80: LS. AS. ADV.; NS.

100: SHALE. MARBON. GR. V. SMT. LT. GR. V. LAY. SILTY STN.

20: LS. TAN. BDN. TAN. SOME GR. V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

30: LS. TAN. BDN. V. FILN. SOME GR. V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

40: LS. TAN. BDN. V. FILN. DSE. SOME SILTY; SN. GR. NS.

50: LS. SIL. FAS. DSE. - SOME GR. V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

60: LS. BDN. V. FILN. DSE. TO SOME SILTY WEATH.; NS.

SHALE DR. BDN. - BEX. CARB.

LS. BDN. V. FILN. DSE.

SHALE, GR. RED.

SH. INT. CUT. TAN. BDN. SH. LS. TAN. BDN. SIL. FAS. P. V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

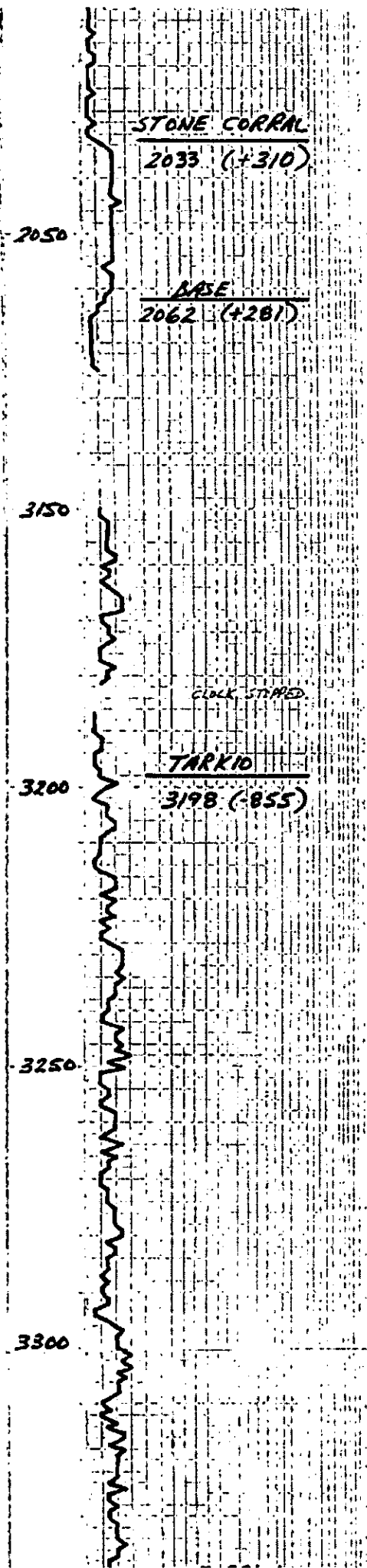
SHALE, MARBON, GR.

SH. INT. CUT. TAN. BDN. SH. LS. TAN. BDN. SIL. FAS. P. V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

LS. GR. BDN. V. FILN. DSE. LT. GR. V. LAY. ST. STN. AS. ADV.; TR. SHALE GR. RED.

DRLG. MUD @ 3470
VIS: 49, WT: 8.8
FILT: 5.6, CALOR: 2,100
LCM: 77.

DST #1
3582-3602
(STRADDLE FROM 3636)
TIMES: 30-45-45-90
IF: BLOW BUILT TO 4"
FF: BLOW BUILT TO 6 1/2"
NO RETURN BLOW.
REC: 1' FREE OIL
184' ARDY WTR (90% WTR)
5' DRLG. MUD.
WTR CHLOR: 67,000 PPM.
SYSTEM: 2 100 PPM.
(RW: .174 @ 47°F.)
IFP: 16-70, FFP: 73-104 &
SIP: 1274-1265 &
TEMP: 99°F.



11/11: 864'
 11/12: 2665'
 11/13: 3526'
 11/14: 3700'
 11/15: 3885'

DEVIATION SURVEYS:
 14° @ 220'
 1° @ 3636'

100: LS. LT. GRAY FINE SAND.
 SLT. WEATH. SLT. CLAY. TR.
 W/ BRN. CRIB. INT.; NS.

20: SOME STRT. GRAY LAM.
 STRAT. LT. GRAY FINE SAND.
 SOME WEATH. SLT. CLAY. TR.
 P, TABLE VERM.; NS.

40: LS. BRN. FINE SAND. SLT.
 WEATH. SLT. CLAY. TR. LAM.
 SILTSTN.; NS.

60: 25. BRN. V. FINE SAND. DSE.
 SOME LS. AS ABIE. SLT. FINE
 SLT. WEATH. PR. PR. XLN. P.
 NS.

80: LS. BRN. V. FINE SAND. DSE. SM.
 INT. LT. GRAY FINE SAND. PR. PR.
 BRN. LAM. SAND. PR. PR. XLN. P.
 SHALE, DE. GRAY, LAM.; NS.

100: TR. COM. OLITIC LS. W/
 PR. PR. B. TR. DE. GRAY. SLT.
 SILY. CS. 1; NS.

20: SOME LAM. SILTSTN. TR.
 FINE SAND. LS. W/ PR. PR. XLN. P.
 SHALE, RED.

40: SOME BRN. V. LAM. STRT.
 STRAT. LS. BRN. V. FINE SAND. DSE.
 SOME FINE SAND. PR. PR. XLN. P.; NS.

60: AS ABIE; NS.

CHALLENGER OIL & GAS CO., LLC
TOWNSEND 1-35

2003 ESL & 992 RWL
35 3.50 22W

NOPTOL 35

WU DRILLING, RIG #2
11/10/11 11/15/11
3005 3200 TD N/A

2920' 3240' TD
CHEMICAL TD

STONE CORRAL
BASE 2033 (+310)
TRAPID 2062 (+281)
TUBERN 3198 (+85)
NEBNER, SW 3193 (+80)
LANING 3519 (+206)
R/C 3592 (+297)
GOWAN 3702 (+159)
ARBICKLE 3814 (+97)
3854 (+51)

2343

2338

8 5/8" @ 219'

NONE

NONE

35

DUE TO POOR STRUCTURAL POSITION AND NEGATIVE DST RESULTS,
IT WAS DECIDED TO PLUG AND ABANDON THIS WELL

Sam P. Friend

7:00 AM DEPTHS:
11/10/11 : SPUD
11/11 : 864'
11/12 : 2065'
11/13 : 3526'
11/14 : 3700'
11/15 : 3895'

STONE CORRAL
2033 (+310)

2000

RRMIT TO
 RR 1 BOX 90 D
 HOXIE KS 67140

SCHIPPERS OIL FIELD SERVICE L.L.C.

545

DATE: 1/17/11	WELL NO: 25	WELL TYPE: 25	WELL LOCATION: 25	JOB START: 1/17/11	JOB FINISH: 1/17/11
LEASE: 25			WELL: 25		

CONTRACTOR: W.W. 6	OWNER:				
TYPE OF JOB: P.M.					
HOLE SIZE:	T.D.	CEMENT:			
CASING SIZE:	DEPTH:	AMOUNT ORDERED:			
TUBING SIZE:	DEPTH:				
DRILL PIPE:	DEPTH:				
TOOL:	DEPTH:				
PRES. MAX:	MINIMUM:	COMMON:	1.5	@ 1.5	1.5
DISPLACEMENT:	SHOE JOINT:	POZMIX:	2.2	@ 2.2	6.2
CEMENT LEFT IN CSG:		GEL:	7	@ 2.6	18.2
PERFS:		CHLORIDE:			
		ASC:			
EQUIPMENT:					
PUMP TRUCK:				@ 2.5	11.5
#:					
BULK TRUCK:					
#:					
BULK TRUCK:					
#:					
		HANDLING:	2.5	@ 2.5	6.25
		MILEAGE:	6.2	@ 2.5	15.5
		TOTAL:			

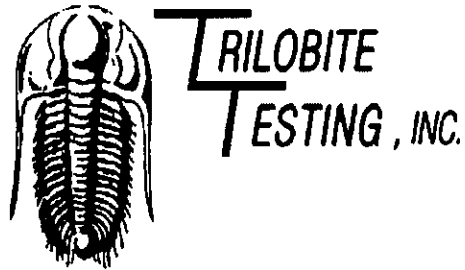
REMARKS:	SERVICE: P.M.		
1. 2550' 25.6	DEPT OF JOB:	@	
2. 132' 132.2	PUMP TRUCK CHARGE:	@	13.2
3. 225' 42.6	EXTRA FOOTAGE:	@	
4. 4.5' 13.2	MILEAGE: 60+2	@ 6.0	7.2
Hand 11.5	MANIFOLD:	@	
		@ 2.0	7.40
	TOTAL:		

CHARGE TO:	Company: D. J. + Co.
STREET:	STATE: K
CITY: Lawrence	ZIP: 6712

To Schippers Oil Field Service LLC
 You are hereby requested to rent cementing equipment and furnish staff 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.

PLUG & FLOAT EQUIPMENT:	
	@ 2.5
	@
	@
	@
	@
TOTAL:	7.40
TAX:	
TOTAL CHARGE:	
DISCOUNT (IF PAID IN 20 DAYS):	10%

SIGNATURE: Mark Biggs
 PRINTED NAME: Mark Biggs



DRILL STEM TEST REPORT

Prepared For: **Crawford Oil & Gas Co LLC**

PO Box 1366
1780 Jason Dr.
El Dorado, KS 67042

ATTN: Larry Friend

Townsend #1-35

35-3-22 Norton,KS

Start Date: 2011.11.13 @ 16:52:53

End Date: 2011.11.14 @ 00:02:23

Job Ticket #: 44732 DST #: 1

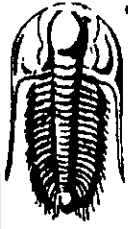
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.24 @ 16:58:32

Crawford Oil & Gas Co LLC 35-3-22 Norton,KS Townsend #1-35 DST # 1 LKC "A" 2011.11.13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Crawford Oil & Gas Co LLC

35-3-22 Norton, KS

PO Box 1366
1780 Jason Dr.
El Dorado, KS 67042
ATTN: Larry Friend

Townsend #1-35

Job Ticket: 44732

DST#: 1

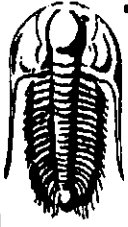
Test Start: 2011.11.13 @ 16:52:53

Tool Information

Drill Pipe:	Length: 3461.00 ft	Diameter: 3.80 inches	Volume: 48.55 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 49.15 bbl</u>	Tool Chased 15.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 28000.00 lb
Depth to Top Packer:	3582.00 ft			Final 28000.00 lb
Depth to Bottom Packer:	3602.00 ft			
Interval between Packers:	20.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3565.00	
Hydraulic tool	5.00			3570.00	
Safety Joint	2.00			3572.00	
Packer	5.00			3577.00	22.00 Bottom Of Top Packer
Packer	5.00			3582.00	
Stubb	1.00			3583.00	
Perforations	4.00			3587.00	
Recorder	0.00	8372	Inside	3587.00	
Recorder	0.00	8734	Outside	3587.00	
Perforations	10.00			3597.00	
Blank Off Sub	1.00			3598.00	
Blank Spacing	4.00			3602.00	20.00 Tool Interval
Packer	5.00			3607.00	
Stubb	1.00			3608.00	
Recorder	0.00	8365	Below	3608.00	
Blank Spacing	31.00			3639.00	
Bullnose	3.00			3642.00	40.00 Bottom Packers & Anchor
Total Tool Length:	82.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Crawford Oil & Gas Co LLC
 PO Box 1366
 1780 Jason Dr.
 El Dorado, KS 67042
 ATTN: Larry Friend

35-3-22 Norton,KS
Townsend #1-35
 Job Ticket: 44732 **DST#: 1**
 Test Start: 2011.11.13 @ 16:52:53

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:	67000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2100.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

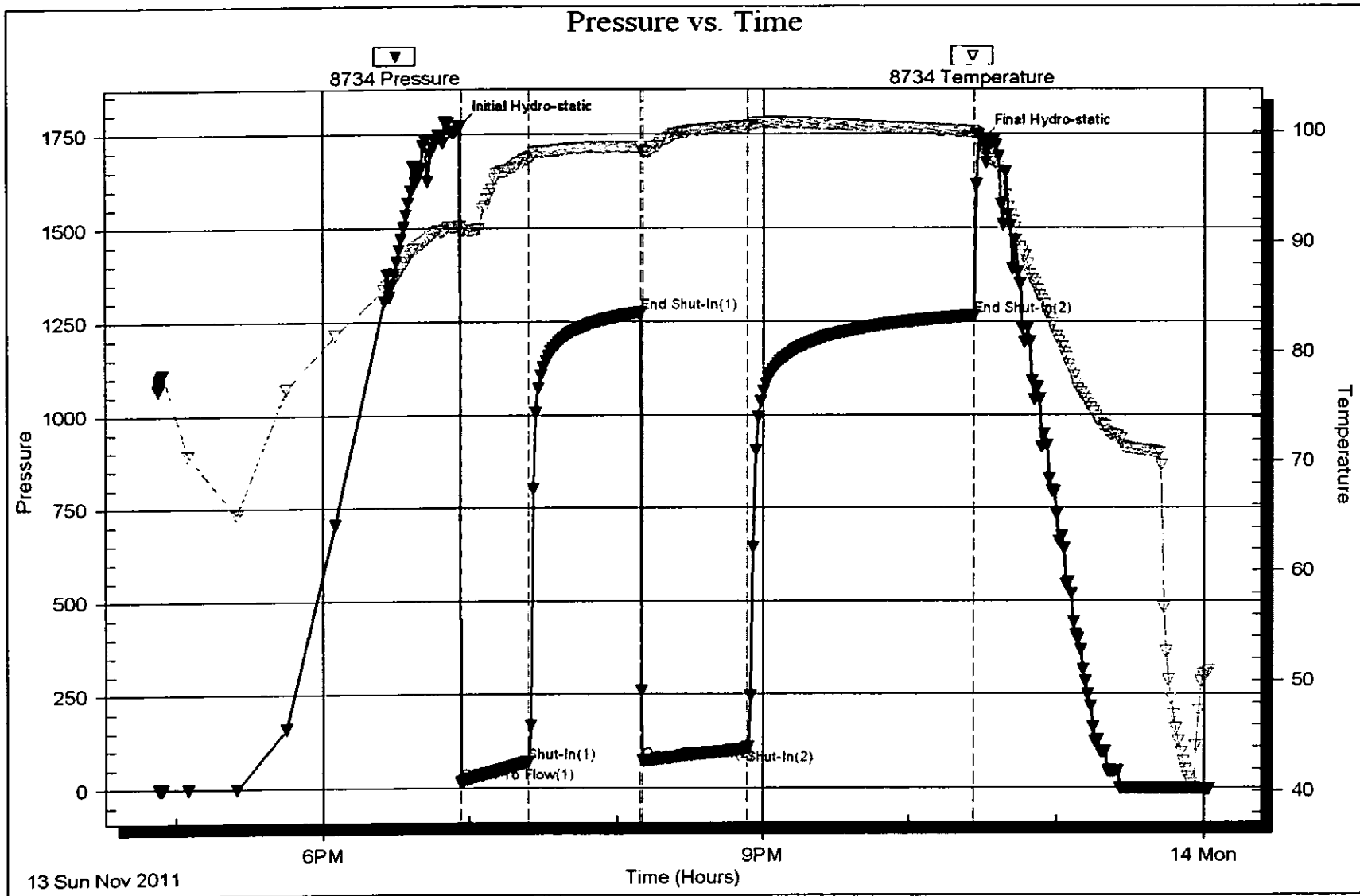
Length ft	Description	Volume bbl
5.00	MUD 100%	0.025
184.00	MV 90%W, 10%M	1.524
1.00	FREE OIL TSTM	0.014

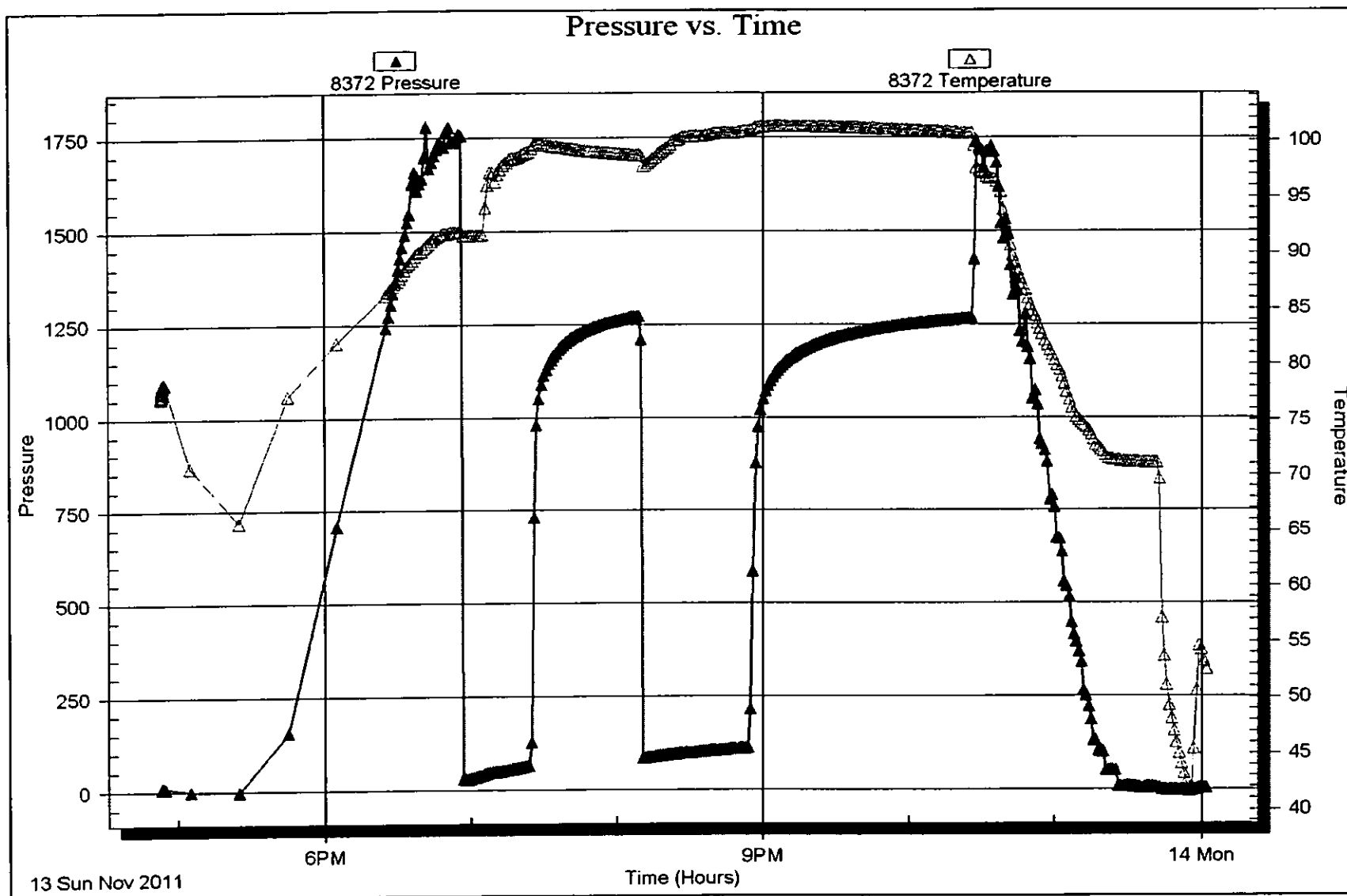
Total Length: 190.00 ft Total Volume: 1.563 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:



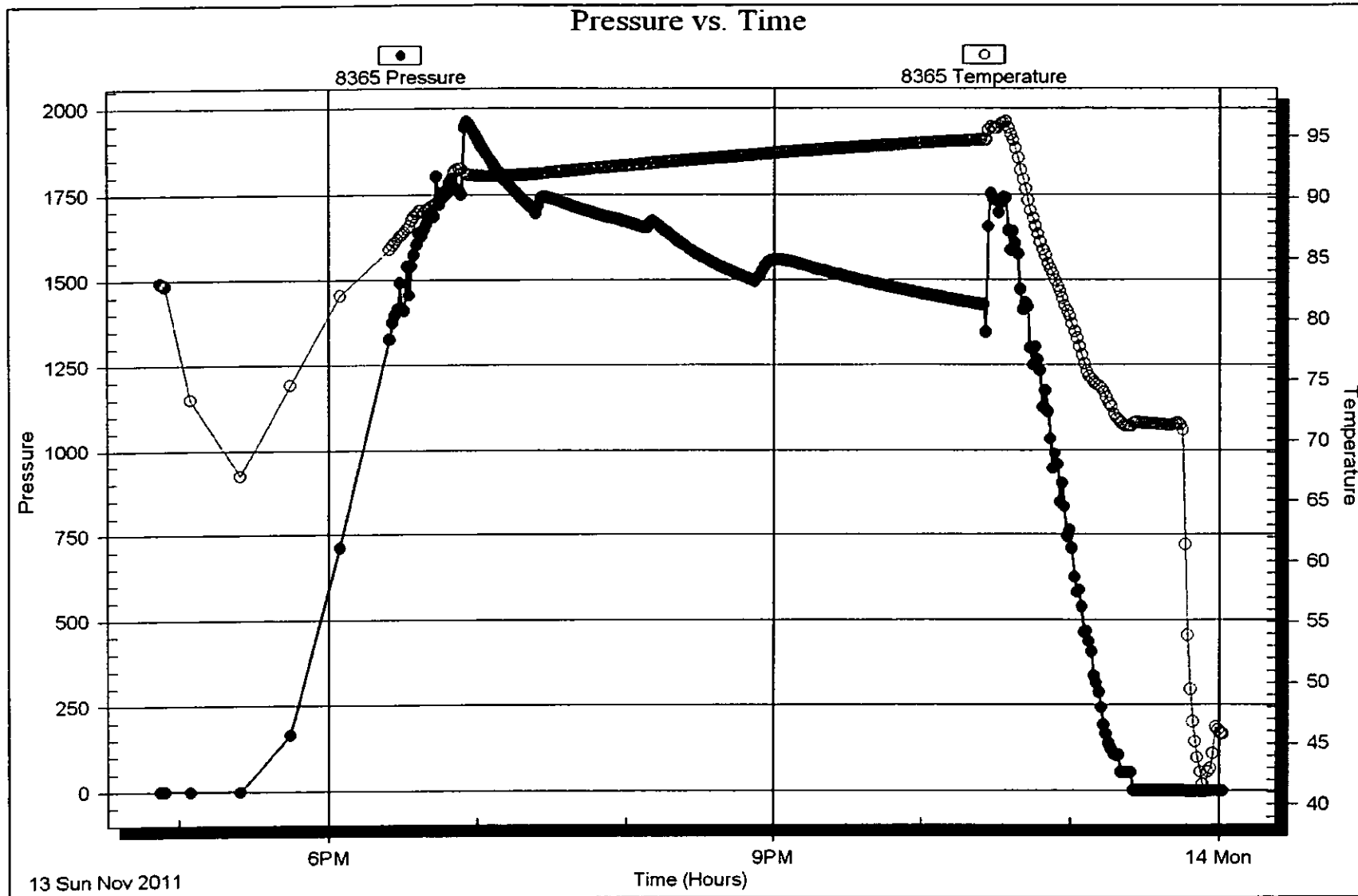


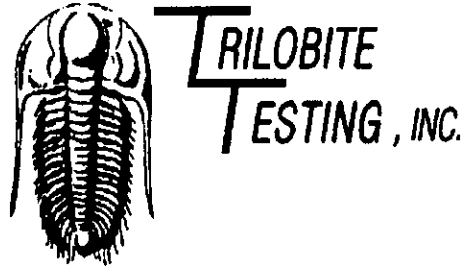
Serial #: 8365

Below (Stratford Oil & Gas Co LLC)

Townsend #1-35

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Crawford Oil & Gas Co LLC**

PO Box 1366
1780 Jason Dr.
El Dorado, KS 67042

ATTN: Larry Friend

Townsend #1-35

35-3-22 Norton,KS

Start Date: 2011.11.14 @ 12:47:48

End Date: 2011.11.14 @ 19:06:48

Job Ticket #: 44733 DST #: 2

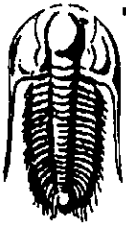
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.24 @ 16:57:51

Crawford Oil & Gas Co LLC 35-3-22 Norton,KS Townsend #1-35 DST # 2 LKC "JK" 2011.11.14



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Crawford Oil & Gas Co LLC

35-3-22 Norton, KS

PO Box 1366
1780 Jason Dr.
El Dorado, KS 67042
ATTN: Larry Friend

Townsend #1-35

Job Ticket: 44733

DST#: 2

Test Start: 2011.11.14 @ 12:47:48

GENERAL INFORMATION:

Formation: **LKC "J-K"**

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

Time Tool Opened: 14:24:18

Time Test Ended: 19:06:48

Test Type: **Conventional Bottom Hole (Reset)**

Tester: **Brian Fairbank**

Unit No: **41**

Interval: **3713.00 ft (KB) To 3767.00 ft (KB) (TVD)**

Total Depth: **3767.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2343.00 ft (KB)**

2338.00 ft (CF)

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

Serial #: 8734

Outside

Press@RunDepth: **126.46 psig @ 3718.00 ft (KB)**

Start Date: **2011.11.14**

End Date:

2011.11.14

Capacity: **8000.00 psig**

Last Calib.: **2011.11.14**

Start Time: **12:47:49**

End Time:

19:06:48

Time On Btm: **2011.11.14 @ 14:23:18**

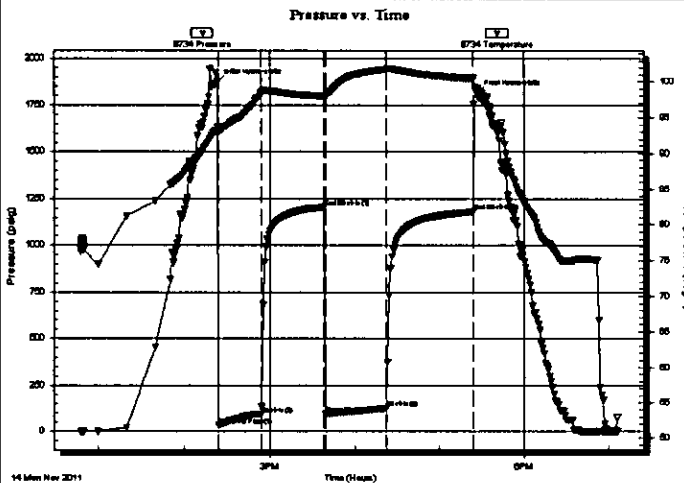
Time Off Btm: **2011.11.14 @ 17:26:48**

TEST COMMENT: **IFP - weak to fair blow 1/4" - 5 1/2"**

ISI - no blow back

FFP - weak to good blow sur - 6 1/2"

FSI - no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1872.94	93.61	Initial Hydro-static
1	32.72	93.07	Open To Flow (1)
31	93.13	98.47	Shut-In(1)
75	1206.57	97.96	End Shut-In(1)
76	98.47	97.86	Open To Flow (2)
119	126.46	101.79	Shut-In(2)
181	1181.56	100.44	End Shut-In(2)
184	1809.66	99.08	Final Hydro-static

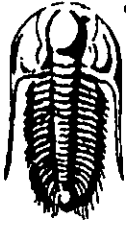
Recovery

Length (ft)	Description	Volume (bbl)
20.00	MUD 100%	0.10
135.00	MW 85%W, 15%M	0.97
55.00	DRL MUD 100%	0.77

* Recovery from multiple tests

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mc/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Crawford Oil & Gas Co LLC

35-3-22 Norton, KS

PO Box 1366
1780 Jason Dr.
El Dorado, KS 67042
ATTN: Larry Friend

Townsend #1-35

Job Ticket: 44733

DST#: 2

Test Start: 2011.11.14 @ 12:47:48

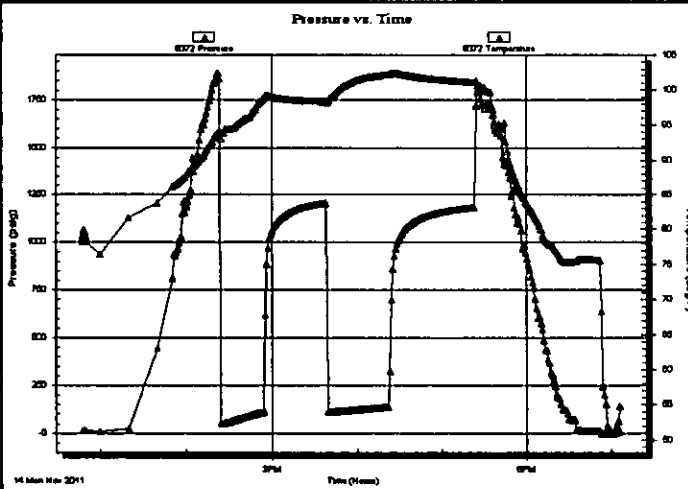
GENERAL INFORMATION:

Formation: **LKC "J-K"**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 14:24:18
 Time Test Ended: 19:06:48
 Interval: **3713.00 ft (KB) To 3767.00 ft (KB) (TVD)**
 Total Depth: **3767.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Good**
 Test Type: **Conventional Bottom Hole (Reset)**
 Tester: **Brian Fairbank**
 Unit No: **41**
 Reference Elevations: **2343.00 ft (KB)**
2338.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8372 Inside

Press@RunDepth: psig @ **3718.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2011.11.14** End Date: **2011.11.14** Last Calib.: **2011.11.14**
 Start Time: **12:47:47** End Time: **19:06:46** Time On Btrm
 Time Off Btrm

TEST COMMENT: FFP - weak to fair blow 1/4" - 5 1/2"
 FSI - no blow back
 FFP - weak to good blow sur - 6 1/2"
 FSI - no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

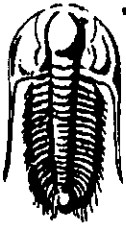
Recovery

Length (ft)	Description	Volume (bbl)
20.00	MUD 100%	0.10
135.00	MW 85%W, 15%M	0.97
55.00	DRL MUD 100%	0.77

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Crawford Oil & Gas Co LLC

35-3-22 Norton, KS

PO Box 1366
1780 Jason Dr.
El Dorado, KS 67042
ATTN: Larry Friend

Townsend #1-35

Job Ticket: 44733

DST#: 2

Test Start: 2011.11.14 @ 12:47:48

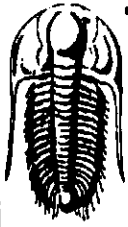
Tool Information

Drill Pipe:	Length: 3586.00 ft	Diameter: 3.80 inches	Volume: 50.30 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 35000.00 lb
		Total Volume: 50.90 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	3713.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	76.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3696.00	
Hydraulic tool	5.00			3701.00	
Safety Joint	2.00			3703.00	
Packer	5.00			3708.00	22.00 Bottom Of Top Packer
Packer	5.00			3713.00	
Stubb	1.00			3714.00	
Perforations	4.00			3718.00	
Recorder	0.00	8372	Inside	3718.00	
Recorder	0.00	8734	Outside	3718.00	
Blank Spacing	31.00			3749.00	
Perforations	15.00			3764.00	
Bullnose	3.00			3767.00	54.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Crawford Oil & Gas Co LLC
 PO Box 1366
 1780 Jason Dr.
 El Dorado, KS 67042
 ATTN: Larry Friend

35-3-22 Norton,KS
Townsend #1-35
 Job Ticket: 44733 **DST#: 2**
 Test Start: 2011.11.14 @ 12:47:48

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:	56000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2100.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	MUD 100%	0.098
135.00	MW 85%W, 15%M	0.974
55.00	DRL MUD 100%	0.772

Total Length: 210.00 ft Total Volume: 1.844 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

