



KANSAS CORPORATION COMMISSION 1094515
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 # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

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 #: _____

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

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ 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: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

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: _____ Date: _____



1094515

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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 type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input 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 type="checkbox"/> Sample Name Top Datum
---	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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
-----------------------------------	-----------	---------	-------------	---------------	---------

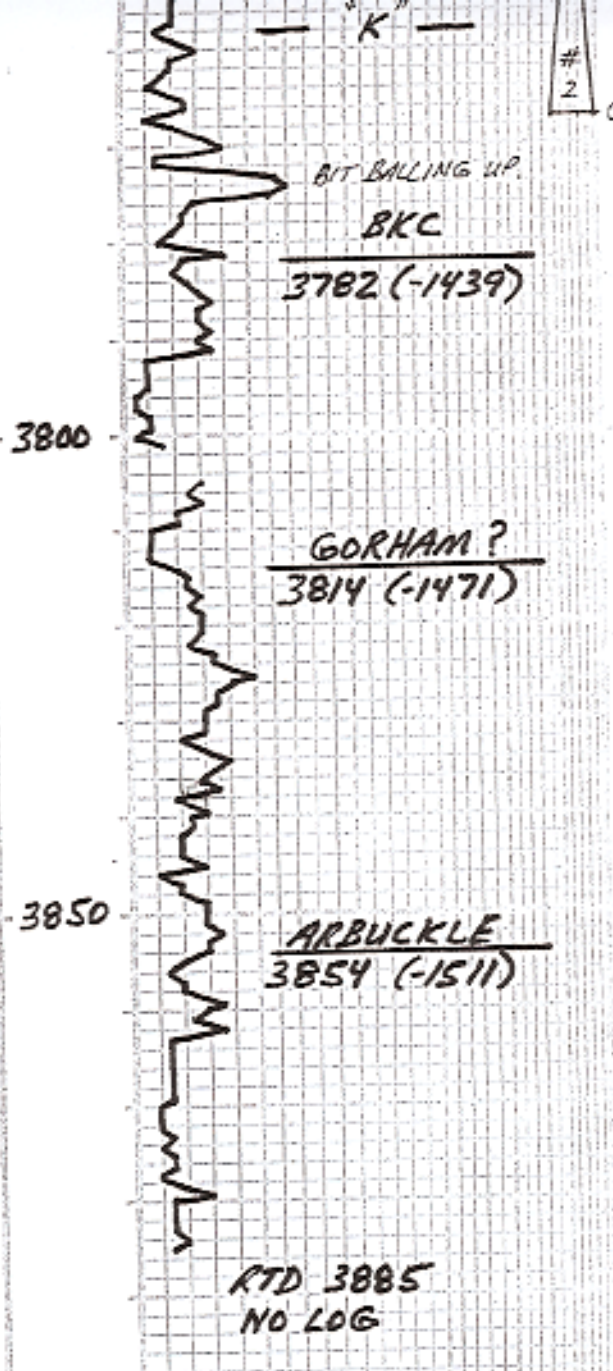
DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> 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

Name	Top	Datum
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

TEMP: 100° F.



2

LS. CR. V. OOL. SOME SLI. WEATH. SLI. CHALKY. FOL. INTER-DOL. PAT. OF SSED. SPTY. TDT. BRN. STN. W/ TR. BLK. RESID. STN. NO. DOR.

SHALE
LS. BRN. V. OOL. / FAS. SLI. CHTY. DSE. W/ TR. DK. SPTY. STN. TS. LS. CR. TAN. OOL. / FAS. W/ PR. XLN. ϕ ; NS.

TR. SOFT LAY. SRT. STN.; TR. PYRITE

LS. PINK FYN. FOS. TR. SILTY. SOME SLI. CHALKY. PR. ϕ ; NS.
TR. SLI. LAY. SILTY; SH. GR. / GR.

LS. CR. V. OOL. SLI. CHALKY. PR. INTER-DOL. PAT. ϕ . SEV. PLS (30) W/ SSED. OR SPTY. DK. BRN. STN. SLI. DOR.

LS. CR. TAN. FYN. SLI. SILTY. SLI. CHALKY. PR. FR. XLN. ϕ ; NS.

LS. TAN. FYN. SLI. SDY / DETRIT. PR. W/ PR. XLN. ϕ

FEW PLS. AAKOSIC SST. W/ V. FN. MD. CLR. RTZ. GRNS. SBRD. AND. ϕ = 70% CSE. GRY. FIELDS. GRNS. WELL CEN. FR. AB. ES. HVY. STICKY. FO. + DK. BRN. SPT. STN. AND FR. AMT. CSE. LOOSE. SBANG. RTZ. GRNS.

← BIT BALLED UP - IN ACCURATE DRILL TIME. MUCH REDBEDS IN SAMPLES AFTER DST # 2.

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

(SST. REACTS VIGOROUSLY IN ACID)

-LS. SLI. SDY. CHTY. DSE. HD. W/ PR. FLUOR. + CUT. NSFO. NO. STN.

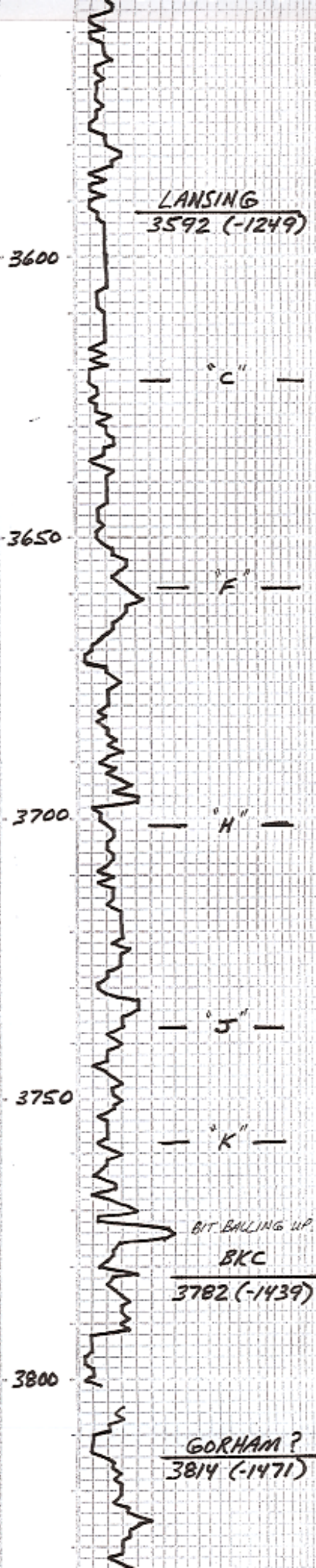
-CHTY. DOL. MITE. OR. TAN. FN. MD. XLN. HD. W/ TR. PR. VNG. ϕ . NS. SOME SLI. GLANC.; TR. FR. XLN. ϕ .

DOL. SST. TAN. SLI. GLANC. V. FN. MD. GRND. CLR. SBRD. G.D. ϕ NS.

DOL. VF. MD. XLN. TAN. DSE. TO TR. FR. VNG. ϕ . AND DOL. SST. AS ABV. NS.

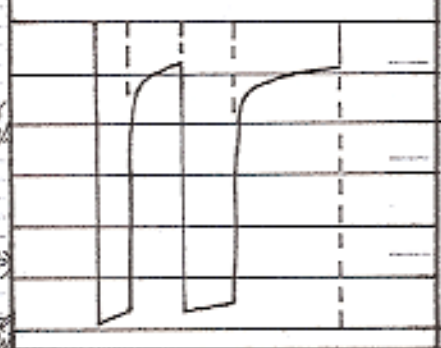
DEPTH	DRILLING TIME Minutes/Foot	ACCOMPLISH	SAMPLE DESCRIPTIONS	REMARKS
-------	----------------------------	------------	---------------------	---------

COMPANY CRAWFORD OIL + GAS CO., LLC ELEVATION: 2343 KB
 LEASE TOWNSEND 1-35
 LOCATION 2083 FSL 992 FWL SEC 35 TWP 350.00 NING 22 W
 COUNTY NORTON STATE KS.



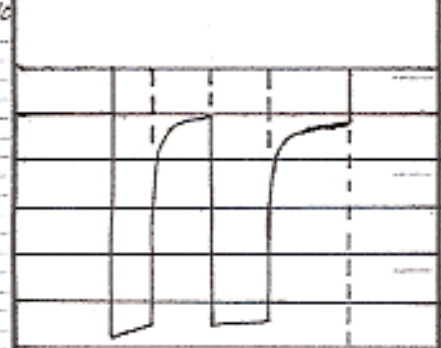
LS. BRN, VF XLN, DSE.
SHALE, GRY, RED.
SM. AM. CHT, TAN-BRN SHP.
LS. TAN-BRN, SLI. FOSS., PR.
XLN. β ; NS.
SHALE, MAROON, GRY.
SEV. ACS (30) LS. GRAY V. DOL.
W/ PR. TR. FR. INTER-DOL. PPT. β
SFO & SPTY-TOT. BRN. STN.
STN. NO ODOR.
LS. GRAY-BRN VF-FXLN DSE-
LIT. PR. FR. XLN. β -LIT. SLI.
CHLKY, TR. SPTY. STN.
SHALE, MAROON, GRY.
CHERT GRAY-BRN SHP. TR. LS.
GRY V. FOSS./DOL. W/ PR. XLN. β
SOME SLI. CHTY W/ TR. SPTY. STN.
LS. TAN VF XLN, DSE, TR. SLI.
FOSS. TR. CHT. 1 PR. V. DOL. LS.
PR. β ; SFO, FR. STN (FROM ARV. β)
SM. AM. LS. GRAY-GRY VF XLN TR.
DOL. FOSS. PR. XLN. β TO LS. BRN
DSE TO GRAY SLI. CHLKY TR. W/
BRN. CARB. SPRS. SHALE; NS.
LS. GRAY-BRN VF-FXLN DSE TR.
SLI. FOSS. + TR. SLI. CHLKY TR.
LS. YELL-BRN FXLN. FOSS. DOL.
W/ PR. FR. XLN. β . MUCH REDBEDS.
NS.
LS. GRAY V. FOSS./DOL. W/ PR.
TR. FR. DOL. C. + FOSS. CAST β
AND LS. GRAY CHLKY; NS.
-CHERT GRAY-BRN SHP IN
BRN DSE CHTY. LS. TO GRAY
CHLKY. LS.; NS.
SHALE, DK. GRY.
LS. BRN-DK. BRN, V. DOL./FOSS.
DSE - PR. XLN. β . SOME CHT.
AS ARV. GRAY-BRN, SHP; NS.
LS. GRAY-GRY FXLN. FOSS./DOL.
W/ PR. FR. XLN. β ; SOME TAN
CHT; NS.
LIT. SHALE, GRAY + GRN.
LS. GRAY-LT. GRN, VF-FXLN
PR. -LIT. FR. XLN. β ; NS.
INC. SHALE, GRY, GRN, MAR.
LS. GRAY V. DOL. W/ MOSTLY PR.
INTER-DOL. β SFO, SPTY. DK.
BRN. STN.; NO ODOR.
SHALE, GRY, GRN, MAROON.
LS. GRAY V. DOL. SOME SLI. WEATH.
SLI. CHLKY. PR. INTER-DOL.
PPT. β SFO, SPTY. TOT. BRN.
STN. + TR. BLK. RESID. STN.; NO
ODOR.
SHALE
LS. BRN V. DOL./FOSS. SLI. CHTY.
DSE W/ TR. DK. SPTY. STN. TR.
LS. GRAY-TAN DOL./FOSS. W/ PR.
XLN. β ; NS.
TR. SOFT LAY SILT STN.; TR.
PYRITE
LS. AMY. FXLN. FOSS. TR. SILTY,
SOME SD. CHLKY, PR. β ; NS.
TR. SU. LAY SILT STN.; SH. GRAY, GRN.
LS. GRAY V. DOL. SLI. CHLKY, PR.
INTER-DOL. PPT. β SEV. ACS (30)
W/ SFO OR SPTY. DK. BRN. STN.,
SLI. ODOR.
LS. GRAY-TAN FXLN. SLI. SPTY.
SLI. CHLKY, PR. FR. XLN. β ; 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 -
INACCURATE DRILL TIME.
MUCH REDBEDS IN SAMPS.
AFTER DST #2.
MUD @ 3767:
VIS: 50, WT: 9.4
FLT: 5.6, CHLOR: 3,100
LCM: 1 #.

TOPEKA

3343 (-1000)

3350

3400

3450

3500

3550

3600

80: TR. LS. CRM. V. FOSS./OOL.
FR. XLN. P. - SOME V. LMY SILTY;
STN. AS ABV; TR. SHALE GRN
RED.

100: LS. CRM-BRN, FXLN SILTY
TR. V. LMY. SILTSTN. PR-SOME
FR. XLN. P.; NS.

20: RED & GRN SHALE SILTY;
LS. TAN-BRN, PR-FR. XLN. P. &
LS. BRN, DSE; NS.

40: LS. CRM V. OOL./FOSS. SLI.
CHALKY IN PR-GR. XLN. P.
AND LS. BRN, DSE; NS. 1

60: LS. TAN-BRN VFXLN SLI. FOSS.
DSE; SOME RED & GRN SHALE
NS.

80: LS. AS ABV; NS.

100: SHALE MAROON, GRN &
SNET, LT. GRN, V. LMY. SILT-
STN.

20: LS. TAN-BRN FXLN, SOME
FOSS. PR-LIT. PR. XLN. P.; SH.
GRN; TR. PYRITE; NS.

30: LS. TAN-BRN VFXLN, DSE
SOME FOSS. TR. CHTY, DSE
TO LIT. PR. XLN. P.; NS.

40: LS. TAN-BRN VFXLN, DSE
SOME SILTY; SH. GRN; NS.

50: LS. SLI. FOSS. DSE - SOME
CRM CHALKY TR. CHERTY; TR.
MAROON SHALE; NS.

60: LS. BRN VFXLN DSE TO
SOME SLI. WEATH.; NS.

DRLG. MUD @ 3470':
VIS: 49, WT: 8.8
FILT: 5.6, CHLOR: 2,100
LCM: Tr.

HEEBNER SH.

3549 (-1206)

SHALE DR. BRN-BLK, CARB.

LS. BRN, VFXLN, DSE.

SHALE, GRN, RED.

SM. AMT. CRT. TAN-BRN SHIP.
LS. TAN-BRN, SLI. FOSS. PR.
XLN. P.; NS.

SHALE, MAROON, GRN.

SEV. PCS (35) LS. CRM V. OOL.
W/LR-TR. FR. INTER-OOL. PPT. P.
SFO & SFTY-TOT. BRN. SAT.
STN, NO OOL.

- LS. GRN-BRN VFXLN, DSE -
LIT. PR-FR. XLN. P. - LIT. SLI.
CHALKY, TR. SFTY. STN.

LANSING

3592 (-1249)



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' 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.

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

STONE CORRAL
 2033 (+310)

BASE
 2062 (+281)

DEVIATION SURVEYS:
 14° @ 220'
 1° @ 3436'

2050

3150

3200

3250

3300

CLOCK STOPPED.

TARKIO
 3198 (-855)

100: LS. LT. GRAY FXLN. SOFT
 SLI WEATH. SLI. CALKRY. TR.
 W/ BRN. CARB. MAT.; NS.

20: SOME SOFT GRAY LAM.
 SHALE LS. BRN. FXLN. FOSS.
 SOME WEATH. W/ PR-FR. XLN.
 ♀, PABLE PERMA; NS.

40: LS. BRN. FXLN. FOSS. SLI.
 WEATH. SLI. PYRITIC W/ PR-
 TR. FR. XLN. ♀; TR. LAM.
 SILTSTN; NS.

60: LS. BRN. V. FXLN. DSE. ♀
 SOME LS. AS ABV. SLI. FOSS.
 SLI. WEATH. FILL FR. XLN. ♀
 NS.

80: LS. BRN. V. FXLN. DSE. SM
 ART. LS. FXLN. FOSS. W/ TR.
 BRN. CARB. SAKS. PR. ♀.
 SHALE, DE. GRAY, LAM.; NS.

100: TR. CRIM. CALITIC LS. W/
 FR. XLN. ♀. TR. DE. GRAY. SLI.
 SHLY. LS.; NS.

20: SOME LAM. SILTSTN. TR.
 FOSS. / DOL. LS. W/ PR-FR. XLN. ♀
 SHALE, RED.

40: SAME BRN. V. LAM. SILT-
 STN. LS. BRN. V. FXLN. DSE.
 SOME FOSS. W/ PR. ♀; NS.

60: AS ABOVE; NS.

GEOLOGIST'S REPORT
 DRILLING TIME AND SERVICE LOG

OPERATOR **CRAWFORD OIL & GAS CO, LLC**

LEGE **TOWNSEND** WELL NO. **1-35**

FIELD _____

LOCATION **2083 ESL & 992 RWL**

SEC. **35** TWP. **3 50.** RGE. **22 W.**

COUNTY **NORTON** STATE **KS**

WELL DRILLING, RIG # **6**

DATE **11/10/11** TO **11/15/11**

LOG TO **3885** TO **N/A**

LOG TO **3200** TO **TD**

LOG TO **3150** TO **TD**

LOG TO **3200** TO **TD**

LOG TO **3240** TO **TD**

LOG TO **2920** TO **CHEMICAL**

STONE CORRAL	2033 (+310)
BASE	2062 (+281)
TRICKLE	3198 (-855)
HEBNER SW	3343 (-1000)
LAASING	3549 (-1206)
BKC	3592 (-1249)
GORHAM	3782 (-1339)
ARBuckle	3814 (-1371)
	3854 (-1411)

REVISIONS WILL FOR STRUCTURAL CORRECTIONS

NO. **2343**

DATE **2338**

MEASUREMENTS FOR M

FROM **K8**

CRISIS RECORD

8 5/8" @ 219'

NONE

NONE

NONE

NONE

NONE



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

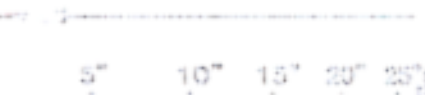
Larry P. Friend

LEGEND



SCALE " = 100'

DRILLING TIME IN MINUTES PER FOOT
 Rate of Penetration (ROP)



2000

LITHOLOGY

SAMPLE DESCRIPTIONS

REMARKS

7:00 AM DEPTHS:
 11/10/11 : SPUD
 11/11 : 864'
 11/12 : 2665'
 11/13 : 3526'
 11/14 : 3700'
 11/15 : 3885'

STONE CORRAL
2033 (+310)



PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

TICKET NUMBER 33694
LOCATION Chalkley
FOREMAN Milly Gabel
Walt Dinko

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY																
11-10-11		Townsend 1-55	35	3	22	Wagon																
CUSTOMER <u>Crawford oil</u>		<table border="1"> <thead> <tr> <th>TRUCK #</th> <th>DRIVER</th> <th>TRUCK #</th> <th>DRIVER</th> </tr> </thead> <tbody> <tr> <td>399</td> <td>Jessie</td> <td></td> <td></td> </tr> <tr> <td>566</td> <td>DERRICK</td> <td></td> <td></td> </tr> <tr> <td></td> <td>CRDY R</td> <td></td> <td></td> </tr> </tbody> </table>					TRUCK #	DRIVER	TRUCK #	DRIVER	399	Jessie			566	DERRICK				CRDY R		
TRUCK #	DRIVER	TRUCK #	DRIVER																			
399	Jessie																					
566	DERRICK																					
	CRDY R																					
MAILING ADDRESS <u>PO Box 1366</u>		<table border="1"> <thead> <tr> <th>CITY</th> <th>STATE</th> <th>ZIP CODE</th> </tr> </thead> <tbody> <tr> <td>El Dorado</td> <td>KS</td> <td>67042</td> </tr> </tbody> </table>					CITY	STATE	ZIP CODE	El Dorado	KS	67042										
CITY	STATE	ZIP CODE																				
El Dorado	KS	67042																				

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 220' CASING SIZE & WEIGHT 8.05 21#
CASING DEPTH 220' DRILL PIPE _____ TUBING _____ OTHER _____
SLURRY WEIGHT 148 SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT in CASING 20'
DISPLACEMENT 12 3/4 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting. Rigged up on well drilling rig. Mixed up to circulate. Mixed 165 sks cement with 12 3/4 bbl slurry. Washed out pump. Rigged down at left location.

Circulated approx. 5 bbl cement + 20' pit.

Cement did circulate.

Walt Dinko

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54013	1	PUMP CHARGE	1025.00	1025.00
5406	60	MILEAGE	5.00	300.00
11045	165 sks	Class A Cement	14.80	2724.00
5407A	7.76	Tan Mileage delivery	1.00	7.76
1102	465#	Calcium Chloride	.80	372.00
1118B	310#	Bentonite	.70	217.00
				5297.76
				5297.76
				4176.76
			SALES TAX	
			ESTIMATED	
			TOTAL	

AUTHORIZATION [Signature] TITLE _____ DATE 11-10-11

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form

REMIT TO
RR 1 BOX 90 D
HOXIE KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

545

DATE <u>11/15/11</u>	SEC <u>35</u>	RANGE/TWP. <u>03-22</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Townsend</u>			WELL # <u>1-35</u>			
			COUNTY <u>Franklin</u> STATE <u>Ks</u>			

CONTRACTOR <u>WW 6</u>	OWNER				
TYPE OF JOB <u>Rzberg</u>					
HOLE SIZE <u>7 7/8</u>	T.D.	CEMENT			
CASING SIZE	DEPTH	AMOUNT ORDERED			
TUBING SIZE	DEPTH				
DRILL PIPE	DEPTH		<u>60/40/49</u>		
TOOL	DEPTH				
PRES. MAX	MINIMUM	COMMON	<u>123</u>	@ <u>15⁰⁰</u>	<u>1500⁰⁰</u>
DISPLACEMENT	SHOE JOINT	POZMIX	<u>82</u>	@ <u>8⁰⁰</u>	<u>697</u>
CEMENT LEFT IN CSG.		GEL	<u>7</u>	@ <u>26⁰⁰</u>	<u>182⁰⁰</u>
PERFS		CHLORIDE		@	
		ASC		@	
EQUIPMENT				@	
				@	
PUMP TRUCK		<u>7 1/2" seal</u>	<u>51⁰⁰</u>	@ <u>2⁰⁰</u>	<u>115.51</u>
#				@	
BULK TRUCK				@	
#				@	
BULK TRUCK				@	
#				@	
		HANDLING	<u>205</u>	@ <u>2⁰⁰</u>	<u>440⁰⁰</u>
		MILEAGE	<u>60</u>	@ <u>20⁰⁰</u>	<u>1200⁰⁰</u>
		TOTAL			

Plus - 3:30 PM 11/15/11

REMARKS	SERVICE <u>Rentary Plus</u>		
<u>1st 2050' 25 sks</u>	DEPT OF JOB	@	
<u>2nd 1220' 100 sks</u>	PUMP TRUCK CHARGE	@	<u>1350⁰⁰</u>
<u>3rd 770' 40 sks</u>	EXTRA FOOTAGE	@	
<u>4th 40' 10 sks</u>	MILEAGE <u>60+2</u>	@ <u>6⁰⁰</u>	<u>780⁰⁰</u>
<u>Rat Holes 30 sks</u>	MANIFOLD	@	
	<u>Light vehicle</u>	@ <u>2⁰⁰</u>	<u>240⁰⁰</u>
	TOTAL		

CHARGE TO: <u>Crawford Oil & Gas</u>	
STREET <u>1200 Dean Drive</u>	STATE <u>Ks</u>
CITY <u>EL Dorado</u>	ZIP <u>67072</u>
<u>P.O. Box 1366</u>	

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	
<u>8 3/4</u>	@ <u>75⁰⁰</u>
	@
	@
	@
	@
TOTAL	<u>7,010.50</u>
TAX	
TOTAL CHARGE	
DISCOUNT (IF PAID IN 20 DAYS)	<u>10%</u>

SIGNATURE Maria Bigge

PRINTED NAME Maria Bigge



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



**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: 44732

DST#: 1

Test Start: 2011.11.13 @ 16:52:53

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:56:23

Time Test Ended: 00:02:23

Test Type: Conventional Straddle (Initial)

Tester: Brian Fairbank

Unit No: 41

Interval: 3582.00 ft (KB) To 3602.00 ft (KB) (TVD)

Reference Elevations: 2343.00 ft (KB)

Total Depth: 3636.00 ft (KB) (TVD)

2338.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8734 Outside

Press @ Run Depth: 104.24 psig @ 3587.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.11.13

End Date:

2011.11.14

Last Calib.: 2011.11.14

Start Time: 16:52:54

End Time:

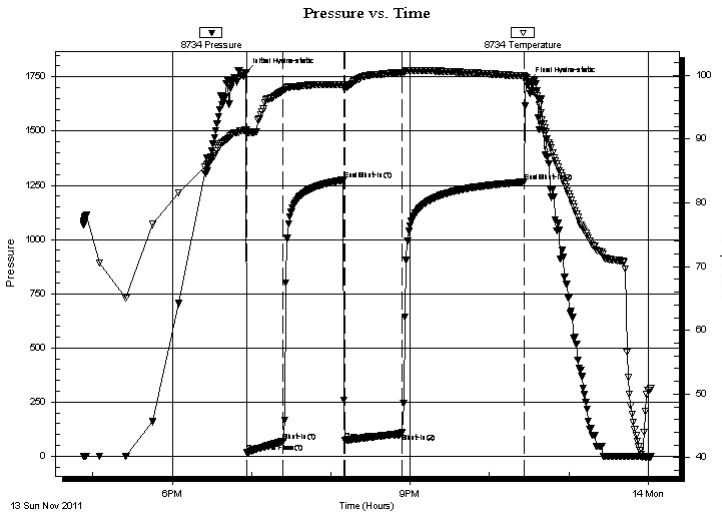
00:02:23

Time On Btm: 2011.11.13 @ 18:55:23

Time Off Btm: 2011.11.13 @ 22:28:53

TEST COMMENT: IFP - weak to fair blow sur - 4"
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	1768.70	91.36	Initial Hydro-static
1	15.98	91.07	Open To Flow (1)
29	69.75	97.59	Shut-In(1)
74	1274.23	98.54	End Shut-In(1)
75	72.72	98.16	Open To Flow (2)
118	104.24	100.42	Shut-In(2)
211	1265.02	99.90	End Shut-In(2)
214	1729.26	98.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.02
184.00	MW 90%W, 10%M	1.52
1.00	FREE OIL TSTM	0.01

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/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: 44732

DST#: 1

Test Start: 2011.11.13 @ 16:52:53

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:56:23

Time Test Ended: 00:02:23

Test Type: Conventional Straddle (Initial)

Tester: Brian Fairbank

Unit No: 41

Interval: 3582.00 ft (KB) To 3602.00 ft (KB) (TVD)

Total Depth: 3636.00 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 #: 8372 Inside

Press @ Run Depth: psig @ 3587.00 ft (KB)

Start Date: 2011.11.13

End Date:

2011.11.14

Capacity: 8000.00 psig

Last Calib.:

2011.11.14

Start Time: 16:52:54

End Time:

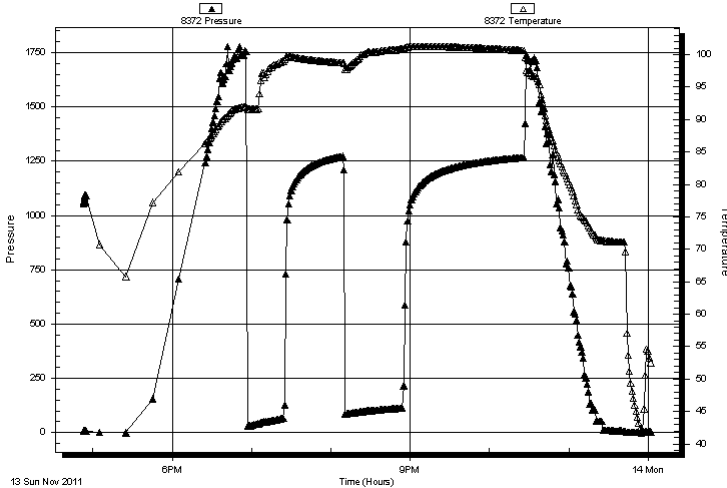
00:02:23

Time On Btm:

Time Off Btm:

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

Pressure vs. Time



PRESSURE SUMMARY

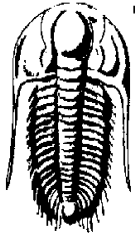
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.02
184.00	MW 90%W, 10%M	1.52
1.00	FREE OIL TSTM	0.01

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

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

GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:56:23

Time Test Ended: 00:02:23

Test Type: Conventional Straddle (Initial)

Tester: Brian Fairbank

Unit No: 41

Interval: 3582.00 ft (KB) To 3602.00 ft (KB) (TVD)

Total Depth: 3636.00 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 #: 8365 Below (Straddle)

Press @ Run Depth: psig @ 3608.00 ft (KB)

Start Date: 2011.11.13

End Date:

2011.11.14

Start Time: 16:52:21

End Time:

00:01:20

Capacity: 8000.00 psig

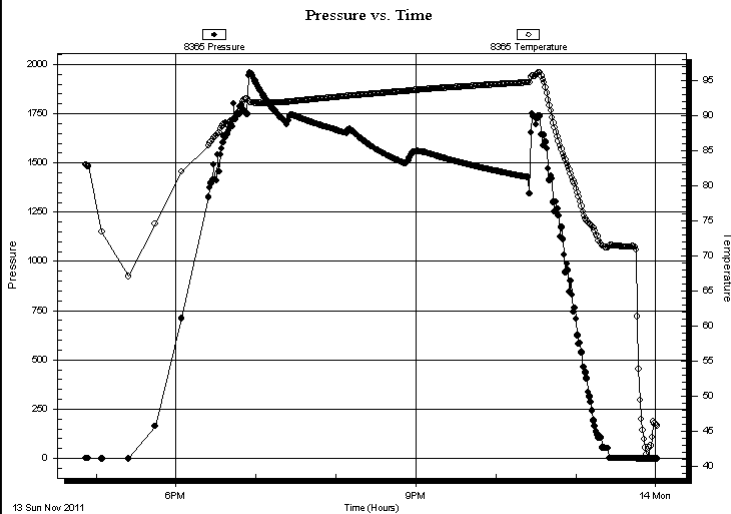
Last Calib.:

2011.11.14

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP - weak to fair blow sur - 4"
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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	MUD 100%	0.02
184.00	MW 90%W, 10%M	1.52
1.00	FREE OIL TSTM	0.01

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: 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

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

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:

bbbl

Water Loss: 5.59 in³

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	MW 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:

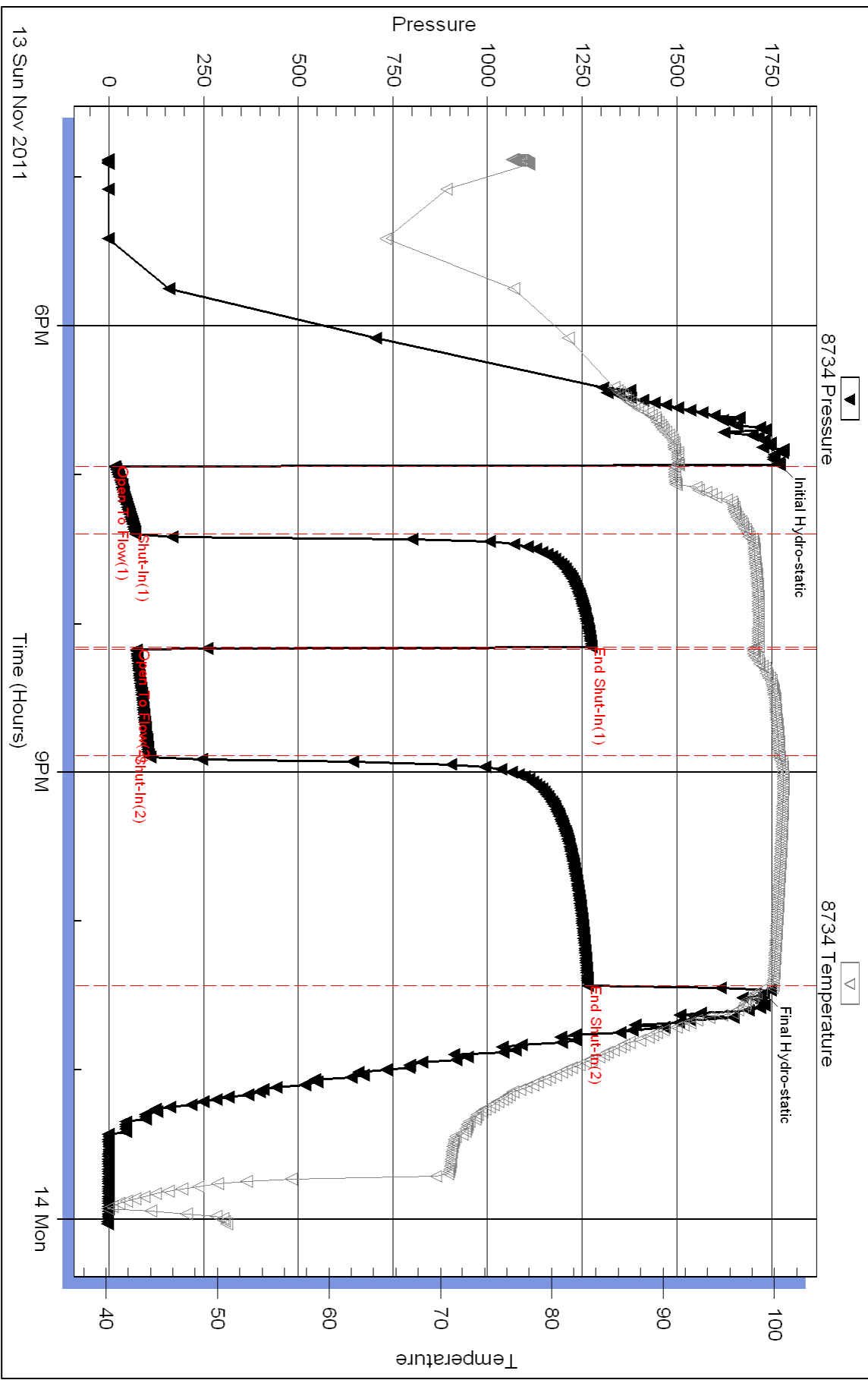
Serial #: 8734

Outside Crawford Oil & Gas Co LLC

Tow nsend #1-35

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 44732

Printed: 2012.09.24 @ 16:58:37

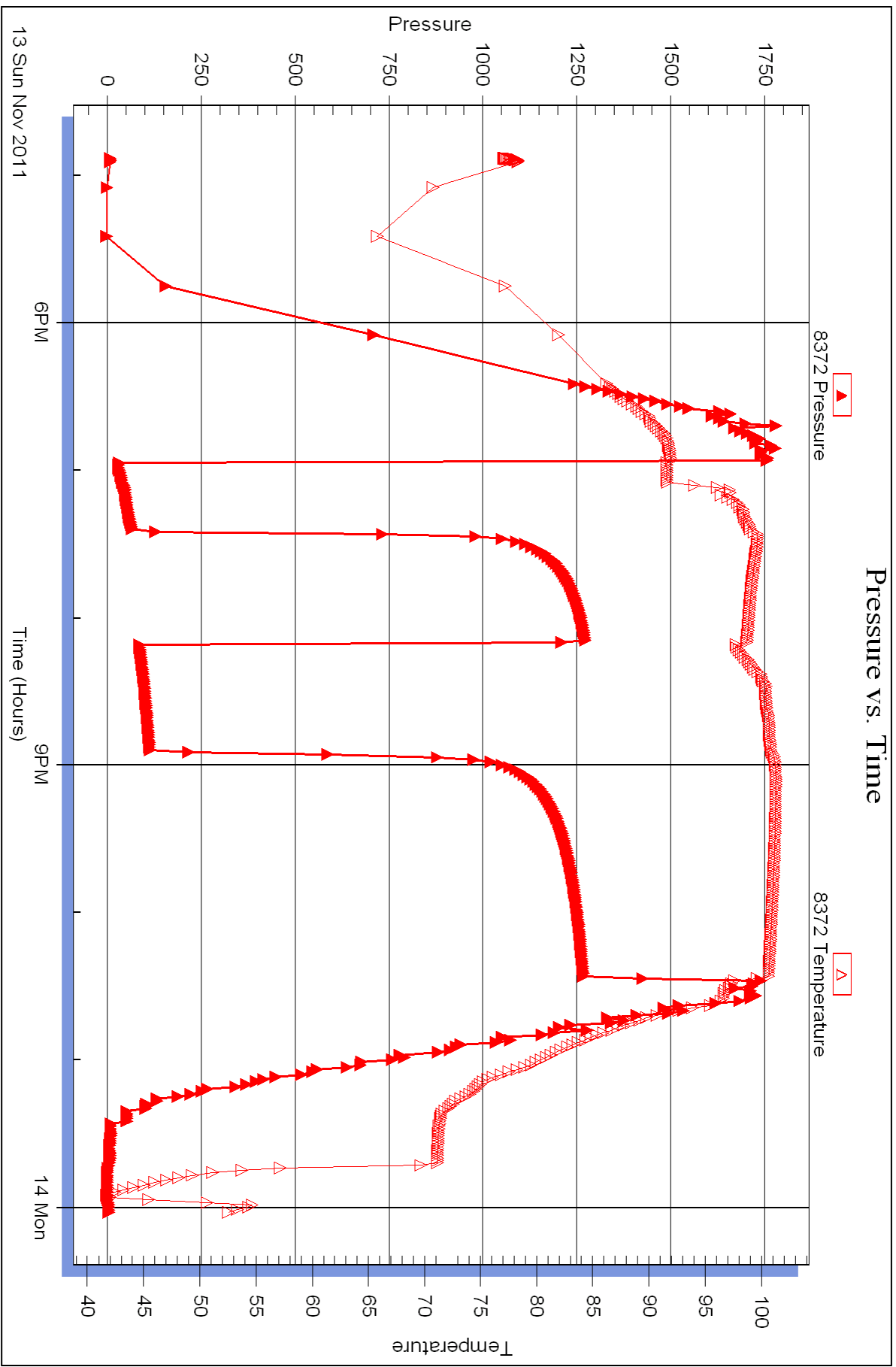
Serial #: 8372

Inside

Crawford Oil & Gas Co LLC

Townsend #1-35

DST Test Number: 1

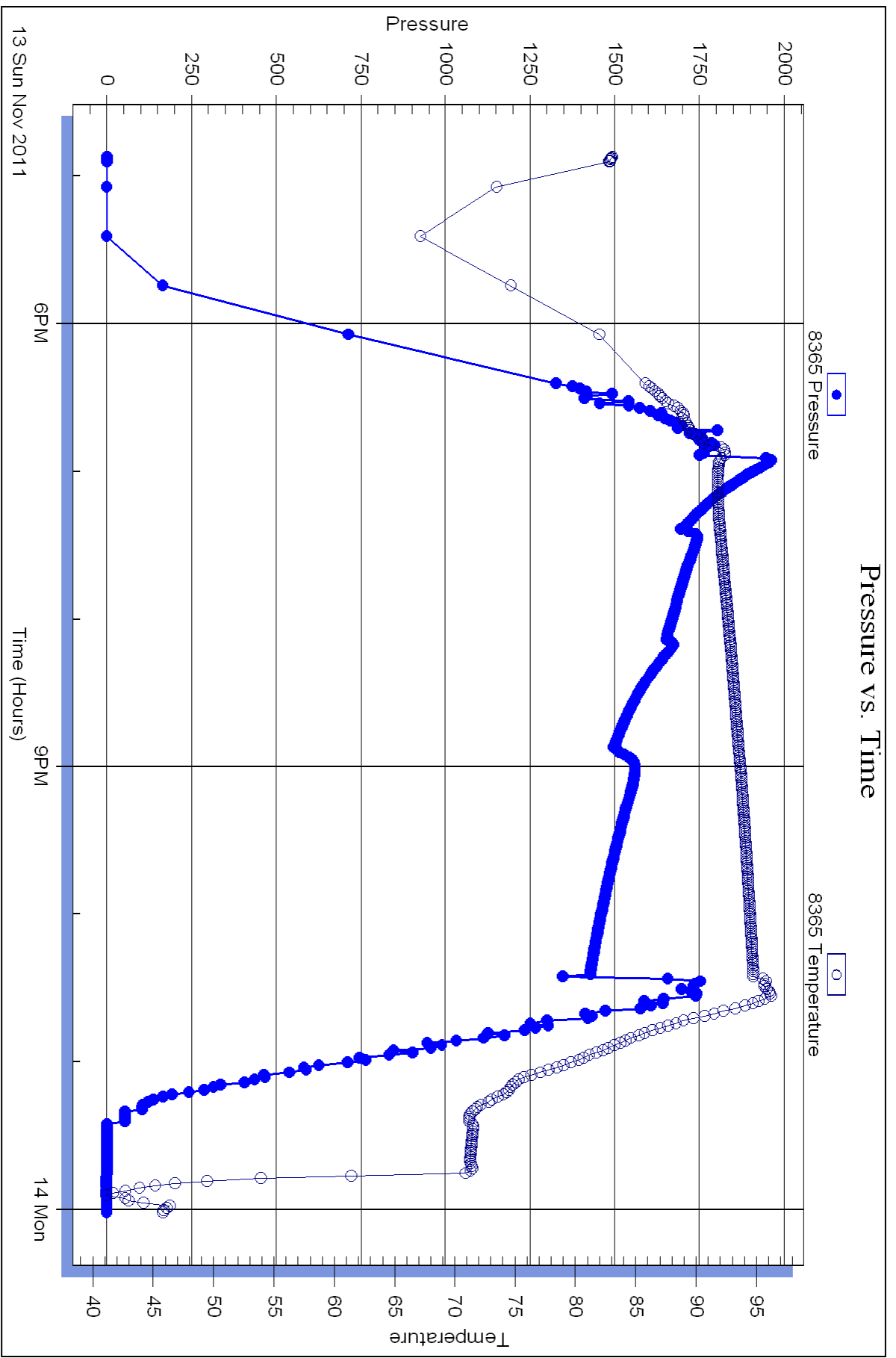


Serial #: 8365

Below (Stratford) Oil & Gas Co LLC

Tow/rend #1-35

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 44732

Printed: 2012.09.24 @ 16:58:37



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 "J-K"
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)

Reference Elevations: 2343.00 ft (KB)

Total Depth: 3767.00 ft (KB) (TVD)

2338.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8734 Outside

Press @ Run Depth: 126.46 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: 12:47:49

End Time:

19:06:48

Time On Btm:

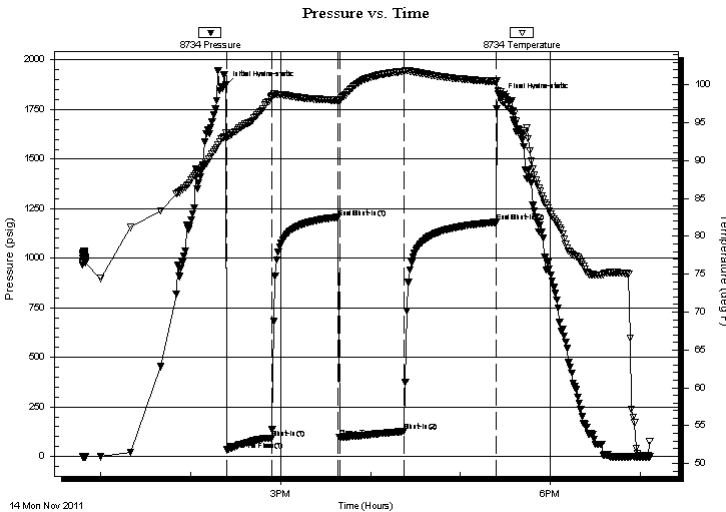
2011.11.14 @ 14:23:18

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 (Mcf/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

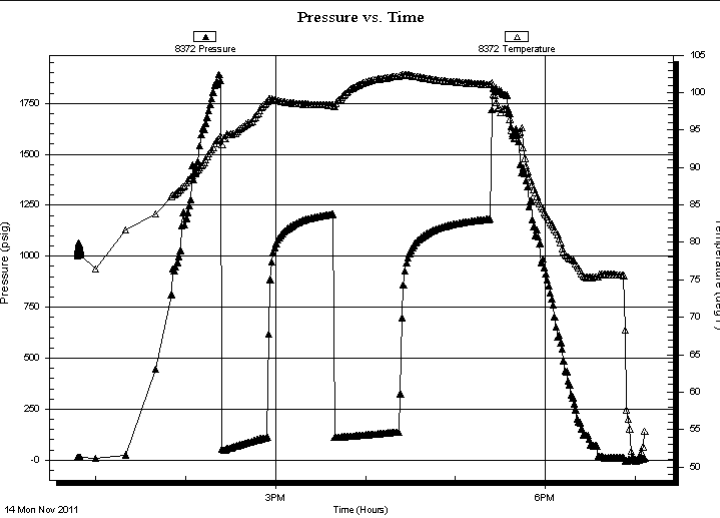
Test Start: 2011.11.14 @ 12:47:48

GENERAL INFORMATION:

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

Serial #: 8372 Inside
 Press @ Run Depth: 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 Btm:
 Time Off Btm:

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

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

Gas Rates

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

* Recovery from multiple tests



**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
			<u>Total Volume: 50.90 bbl</u>	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

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

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

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:

bbf

Water Loss: 5.59 in³

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 bbf
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 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

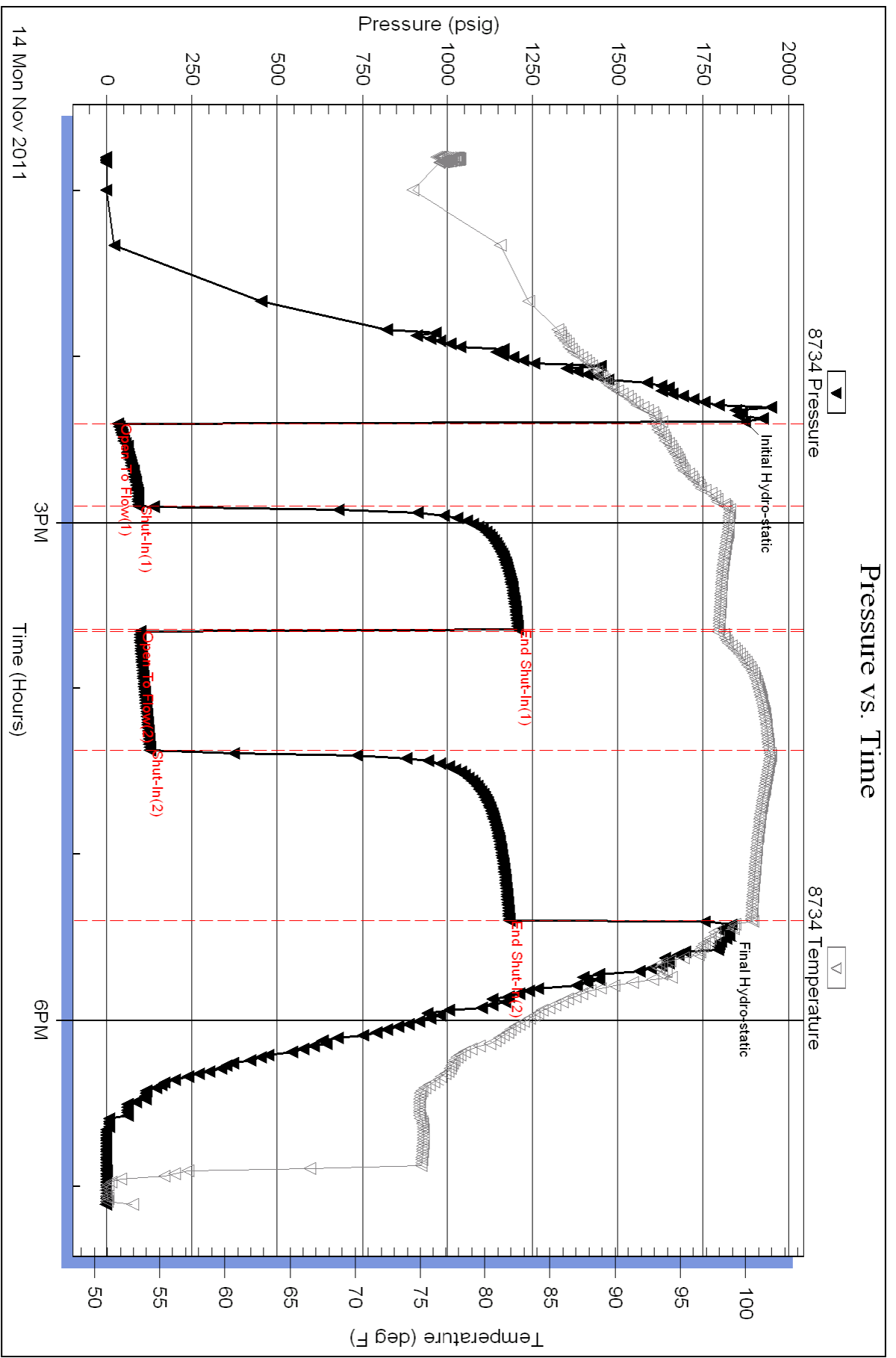
Recovery Comments:

Serial #: 8734

Outside Crawford Oil & Gas Co LLC

Tow/rend #1-35

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 44733

Printed: 2012.09.24 @ 16:57:55

Serial #: 8372

Inside

Crawford Oil & Gas Co LLC

Townsend #1-35

DST Test Number: 2

