Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1107471

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 5135
Name: Farmer, John O., Inc.
Address 1: 370 W WICHITA AVE
Address 2: PO BOX 352
City: RUSSELL State: KS Zip: 67665 + 2635
Contact Person: Marge Schulte
Phone: (785) 483-3144
CONTRACTOR: License # 33575
Name: WW Drilling, LLC
Wellsite Geologist: Austin Klaus
Purchaser: Coffeyville Resources

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
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

09/19/2012 Spud Date or Recompletion Date
09/25/2012 Date Reached TD
10/17/2012 Completion Date or Recompletion Date

API No. 15 - 15-147-20692-00-00
Spot Description: NW NW NE NE
NW NW NE NE Sec. 15 Twp. 5 S. R. 20 ☐ East ☑ West
110 Feet from ☑ North / ☐ South Line of Section
1170 Feet from ☑ East / ☐ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☑ NE ☐ NW ☐ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*

Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84

County: Phillips
Lease Name: States A Well #: 2
Field Name: Hansen West
Producing Formation: Gorham Sand
Elevation: Ground: 2099 Kelly Bushing: 2104
Total Vertical Depth: 3625 Plug Back Total Depth: 3606
Amount of Surface Pipe Set and Cemented at: 234 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 1623 Feet
If Alternate II completion, cement circulated from: 1623
feet depth to: 0 w/ 225 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 14000 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

☑ **Confidentiality Requested**
Date: 01/14/2013
☑ **Confidential Release Date:** 01/15/2015
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 01/15/2013

1107471

Operator Name: Farmer, John O., Inc. Lease Name: States A Well #: 2

Sec. 15 Twp. 5 S. R. 20 ☐ East ☑ West County: Phillips

INSTRUCTIONS: Show important tops 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.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:
Attached

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

Name: Attached Top: Attached Datum: Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	20	234	Common	170	
Production	7.875	5.50	14	3622	EA-2	145	
Port Collar	0	0	0	1623	QMDC	225	

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	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☐ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
4	3516-20' (Gorham Sand)	750 gals. 15% NE	
4	3545-54' (Arbuckle)	500 gals. 15% NE	(NON-PRODUCTIVE)

TUBING RECORD: Size: 2-7/8" Set At: 2956' Packer At:

Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR.: 01/01/2013

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	18.00		20.00		29

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:
3516-20'

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	States A 2
Doc ID	1107471

All Electric Logs Run

Micro Resistivity Log
Compensated Density Neutron Log
Dual Induction Log
Computer Generated Interpretation

Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	States A 2
Doc ID	1107471

Tops

Name	Top	Datum
Anhydrite	1626'	(478)
Topeka	3015'	(-911)
Heebner	3210'	(-1106)
Toronto	3246'	(-1142)
Lansing	3257'	(-1153)
Base/KC	3453'	(-1349)
Arbuckle	3541'	(-1437)
L.T.D.	3596'	(-1492)

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

January 14, 2013

Marge Schulte
Farmer, John O., Inc.
370 W WICHITA AVE
PO BOX 352
RUSSELL, KS 67665-2635

Re: ACO1
API 15-147-20692-00-00
States A 2
NE/4 Sec.15-05S-20W
Phillips County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Marge Schulte

ALLIED OIL & GAS SERVICES, LLC 056534

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: Russell K.

DATE 4-19-12	SEC. 15	TWP. 5	RANGE 20	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE [illegible]	WELL # 2	LOCATION [illegible]				COUNTY Phillips	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR [illegible]
TYPE OF JOB surface
HOLE SIZE 12¼ T.D. 234
CASING SIZE 8⅝ [illegible] DEPTH [illegible]
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT 15'
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 14 bbl

EQUIPMENT

PUMP TRUCK CEMENTER Robert Y / Bob S
\# 409 HELPER Tony P
BULK TRUCK
\# DRIVER Kevin R
BULK TRUCK
\# DRIVER

REMARKS:

[illegible]

Cement circulated to surface

Thank you

CHARGE TO: John O Farmer

STREET

CITY STATE ZIP

OWNER

CEMENT

AMOUNT ORDERED 170 [illegible]

COMMON	170	@ 17.90	3043.00
POZMIX		@	
GEL	3	@ 23.45	70.35
CHLORIDE	6	@ 64.00	384.00
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	183.51 [illegible]	@ 2.48	455.11
MILEAGE	628.50 +/m	2.60	1634.10
		TOTAL	5586.56

SERVICE

DEPTH OF JOB			234
PUMP TRUCK CHARGE			1512.25
EXTRA FOOTAGE		@	
MILEAGE	75 HVMI	@ 7.70	577.50
MANIFOLD		@	
	75 LVMI	@ 4.40	330.00
		@	
		TOTAL	2419.75

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
	TOTAL	

To: Allied Oil & Gas Services, 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.

SALES TAX (If Any)

TOTAL CHARGES 8006.31

DISCOUNT 2129.68 IF PAID IN 30 DAYS

PRINTED NAME

SIGNATURE [illegible]

JOB LOG — SWIFT Services, Inc.

DATE 7-24-12 | PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
John D. Farmer	A#2	States	Cement Longstring	22835

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	2210							On location - Rig @ 2230
	2220							Start 5½" casing
								Insert float shoe w/ fillup
								L.D. Baffle - S.J 16' Ft. @ 3609
								Cent 1-3-5-7-9-11-47 Bskts 2-12-48 clamp
								P.C #48 @ 1623'
								Drop fillup ball 5 stand
	2400							Fin casing - Cir 10' Down
	0015							Start cir & Rotate Casing
	0045							Fin cir -
			7			~		Plug RH - 30 sks EH - 2 cmt
	0100	5	12	32			300	Pump 500 gal Mud flush
		6	20				300	Pump 20 BBl KCL flush
		4					250	Mix & pump 145 sks EH - 2 cmt
			36				Vac	Fin cmt - Wash out Pump & Lines
								Drop L.D. Plug -
		9					350	Start Disp'l - 20 BBl KCL
		9	80				350	68 Bbl H2O.
		9	65				350/400	Cmt left @ 65 BBl
		7	70				500	Slow rate
		6	85				600	Slow rate
	0130		88				850/1600	Plug Down - Held - Release & Held
							0	Job Complete
								Wash up & Rack up TOL
	0215							Thanks Dan, Brian & Isaac

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 6042

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10-10-12	15	5	20	Phillips	KS		11:00AM

Location Logan 1/2S 1/2E 2S E into

Lease States A Well No 2 Owner

Contractor KOE Well Service

Type Job Port Collar

Hole Size 7 7/8 T.D.

Csg. 5 1/2 Depth

Tbg. Size 2 7/8 Depth

Tool Depth 1623

Cement Left in Csg. Shoe Joint

Meas Line Displace 7 1/2 BL

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To J.D. Farmer

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 225 Q mid 1/4# Flo Gel 3% gel 1/4 225sk

Common 225

Poz. Mix

Gel. 3

Calcium

Hulls

Salt

Flowseal 50#

Kol-Seal

Mud CLR 48

CFL-117 or CD110 CAF 38

Sand

Handling 225

Mileage

EQUIPMENT

Pumptrk 16 No. Cementer Craig / Helper

Bulktrk No. Driver Travis / Driver

Bulktrk 14 No. Driver Cody / Driver

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

Tool @ 1623 - Test to 1000#
Open Tool & Pump 3 sk gel & Est. Circulation Mix 225 sk Cement & Displace Cement Circulated. Test to 1000# Run 5 joints & Reverse out.

FLOAT EQUIPMENT

Guide Shoe

Centralizer

Baskets

AFU Inserts

Float Shoe

Latch Down

Pumptrk Charge Port Collar

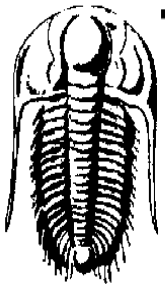
Mileage 60

Tax

Discount

Total Charge

X Signature Duane Coleman



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

States A # 2

15 5s 20w Phillips,KS

Start Date: 2012.09.22 @ 14:15:00
End Date: 2012.09.22 @ 20:15:00
Job Ticket #: 48659 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.27 @ 09:38:15

DRILL STEM TEST REPORT

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48659 **DST#: 1**

Test Start: 2012.09.22 @ 14:15:00

GENERAL INFORMATION:

Formation: **LKC " C "**
Deviated: No Whipstock: 2104.00 ft (KB)
Time Tool Opened: 16:17:45
Time Test Ended: 20:15:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jim Svaty
Unit No: 58

Interval: 3271.00 ft (KB) To 3300.00 ft (KB) (TVD)
Total Depth: 3300.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

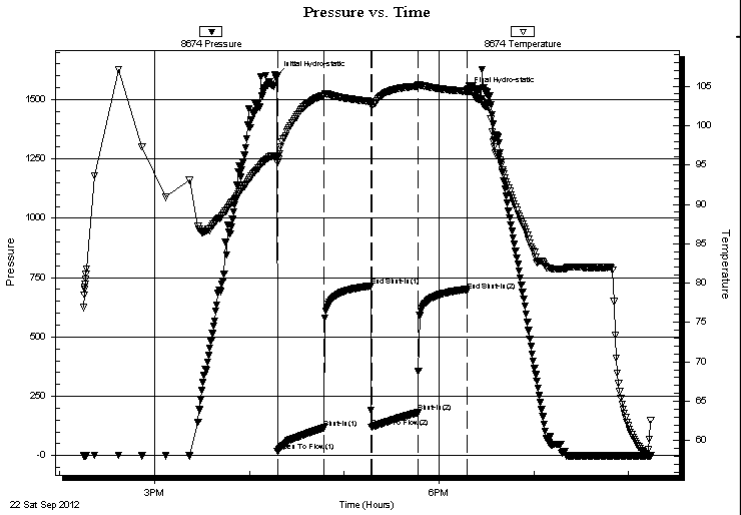
Reference Elevations: 2104.00 ft (KB)
2099.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8674 **Inside**

Press@RunDepth: 181.29 psig @ 3272.00 ft (KB)
Start Date: 2012.09.22 End Date: 2012.09.22
Start Time: 14:15:05 End Time: 20:13:59

Capacity: 8000.00 psig
Last Calib.: 2012.09.22
Time On Btm: 2012.09.22 @ 16:17:30
Time Off Btm: 2012.09.22 @ 18:17:45

TEST COMMENT: 30-IFP- BOB in 14 min
30-ISIP- Weak Surface Blow Died in 25 min
30-FFP- BOB in 16 min
30-FSIP- Very Weak Surface Blow Died in 10 min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1599.86	96.16	Initial Hydro-static
1	17.63	95.27	Open To Flow (1)
30	117.02	103.85	Shut-In(1)
60	714.99	103.05	End Shut-In(1)
60	119.73	102.81	Open To Flow (2)
90	181.29	105.01	Shut-In(2)
120	693.62	104.33	End Shut-In(2)
121	1535.41	104.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MCW 10%m 90%w	1.52
124.00	VSOMCW 2%o 10%m 88%w	1.74
50.00	OMCW 5%o 20%m 75%w	0.70
8.00	MCO 5%m 95%o	0.11
0.00	120 GIP	0.00

Gas Rates

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

DRILL STEM TEST REPORT

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48659 **DST#: 1**

Test Start: 2012.09.22 @ 14:15:00

GENERAL INFORMATION:

Formation: **LKC " C "**
Deviated: No Whipstock: 2104.00 ft (KB)
Time Tool Opened: 16:17:45
Time Test Ended: 20:15:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jim Svaty
Unit No: 58

Interval: 3271.00 ft (KB) To 3300.00 ft (KB) (TVD)
Total Depth: 3300.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

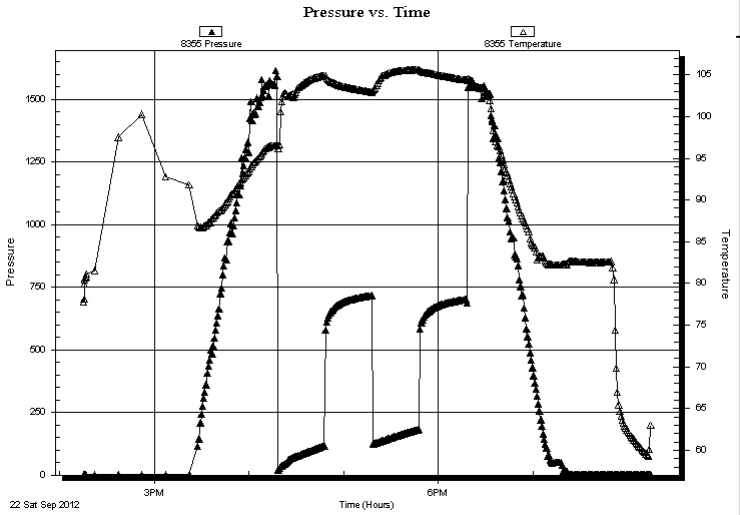
Reference Elevations: 2104.00 ft (KB)
2099.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8355 **Outside**

Press@RunDepth: psig @ 3272.00 ft (KB)
Start Date: 2012.09.22 End Date: 2012.09.22
Start Time: 14:15:05 End Time: 20:15:14

Capacity: 8000.00 psig
Last Calib.: 2012.09.22
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP- BOB in 14 min
30-ISIP- Weak Surface Blow Died in 25 min
30-FFP- BOB in 16 min
30-FSIP- Very Weak Surface Blow Died in 10 min



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MCW 10%m 90%w	1.52
124.00	VSOMCW 2%o 10%m 88%w	1.74
50.00	OMCW 5%o 20%m 75%w	0.70
8.00	MCO 5%m 95%o	0.11
0.00	120 GIP	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48659 **DST#: 1**

Test Start: 2012.09.22 @ 14:15:00

Tool Information

Drill Pipe:	Length:	3161.00 ft	Diameter:	3.80	inches	Volume:	44.34	bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.75	inches	Volume:	0.00	bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25	inches	Volume:	0.59	bbl	Weight to Pull Loose:	65000.00 lb
						Total Volume:	44.93	bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		30.00 ft							String Weight: Initial	36000.00 lb
Depth to Top Packer:		3271.00 ft							Final	39000.00 lb
Depth to Bottom Packer:		ft								
Interval between Packers:		29.00 ft								
Tool Length:		49.00 ft								
Number of Packers:		2	Diameter:	6.75	inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3252.00		
Shut In Tool	5.00			3257.00		
Hydraulic tool	5.00			3262.00		
Packer	5.00			3267.00	20.00	Bottom Of Top Packer
Packer	4.00			3271.00		
Stubb	1.00			3272.00		
Recorder	0.00	8355	Outside	3272.00		
Recorder	0.00	8674	Inside	3272.00		
Perforations	25.00			3297.00		
Bullnose	3.00			3300.00	29.00	Bottom Packers & Anchor
Total Tool Length:	**49.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48659 **DST#: 1**

Test Start: 2012.09.22 @ 14:15:00

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:	94000 ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.55 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	MCW 10%m 90%w	1.516
124.00	VSOMCW 2%o 10%m 88%w	1.739
50.00	OMCW 5%o 20%m 75%w	0.701
8.00	MCO 5%m 95%o	0.112
0.00	120 GIP	0.000

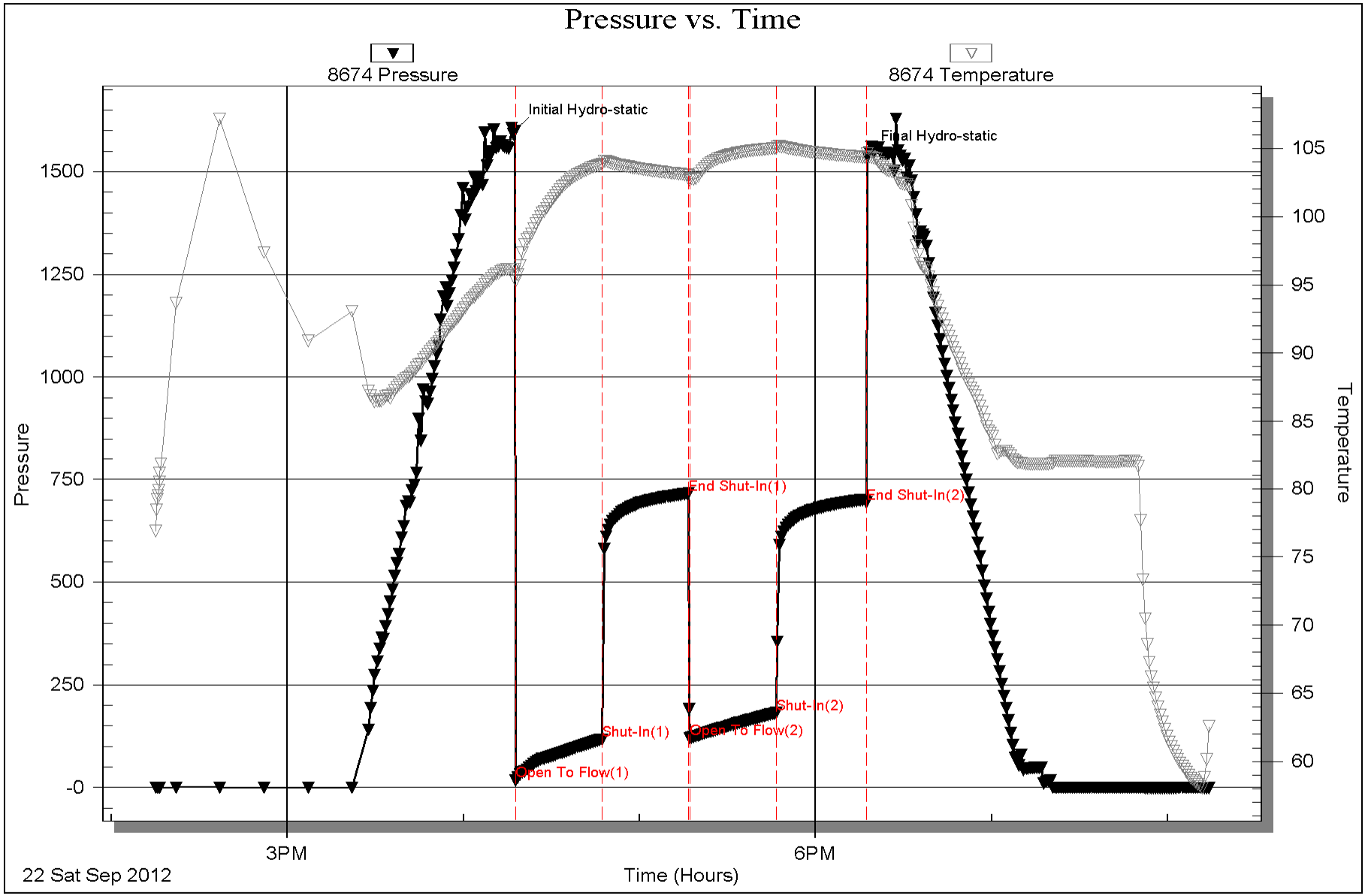
Total Length: 368.00 ft Total Volume: 4.068 bbl

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

Laboratory Name: Laboratory Location:

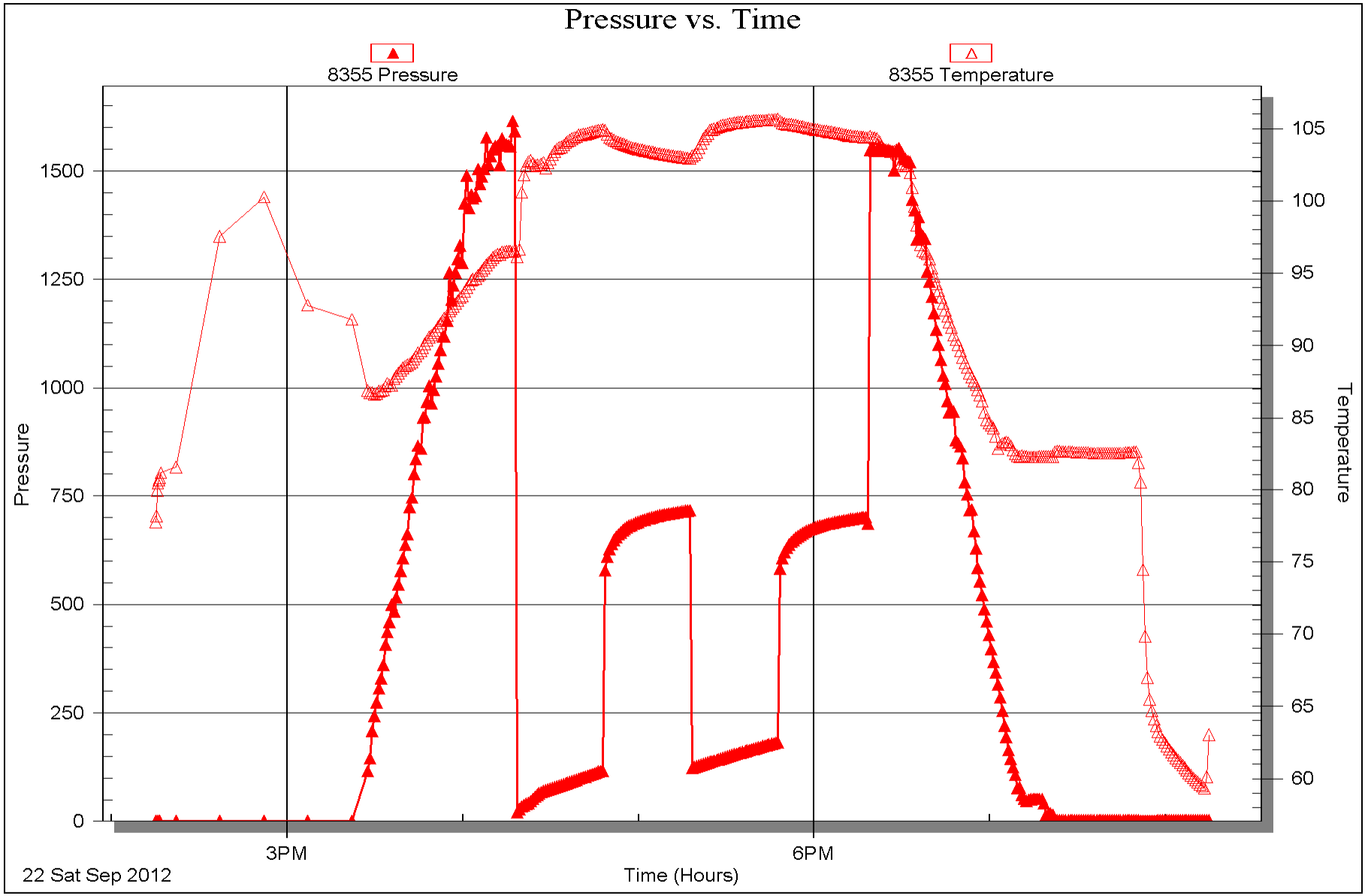
Recovery Comments: .09 @ 67

Serial #: 8674 **Inside** John O Farmer Inc States A # 2 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 48659 Printed: 2012.09.27 @ 09:38:19

Serial #: 8355 **Outside** John O Farmer Inc States A # 2 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 48659 Printed: 2012.09.27 @ 09:38:20

DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

States A # 2

15 5s 20w Phillips,KS

Start Date: 2012.09.23 @ 02:08:00
End Date: 2012.09.23 @ 07:07:00
Job Ticket #: 48660 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.27 @ 09:37:27

DRILL STEM TEST REPORT

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48660 **DST#: 2**

Test Start: 2012.09.23 @ 02:08:00

GENERAL INFORMATION:

Formation: **LKC " D "**
Deviated: No Whipstock: 2104.00 ft (KB)
Time Tool Opened: 03:42:15
Time Test Ended: 07:07:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 58

Interval: 3298.00 ft (KB) To 3318.00 ft (KB) (TVD)
Total Depth: 3318.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

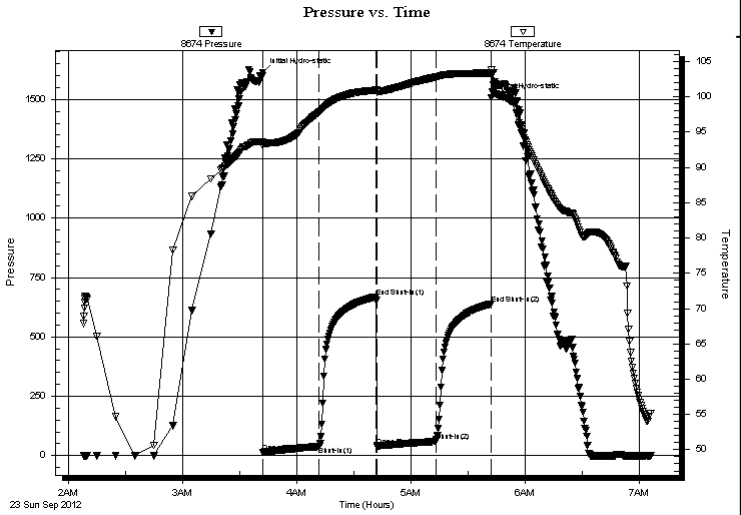
Reference Elevations: 2104.00 ft (KB)
2099.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8674 **Inside**

Press@RunDepth: 60.26 psig @ 3299.00 ft (KB)
Start Date: 2012.09.23 End Date: 2012.09.23
Start Time: 02:08:05 End Time: 07:05:44

Capacity: 8000.00 psig
Last Calib.: 2012.09.23
Time On Btm: 2012.09.23 @ 03:42:00
Time Off Btm: 2012.09.23 @ 05:42:15

TEST COMMENT: 30-IFP- Surface Blow Building to 1" in 10 min
30-ISIP- No Blow
30-FFP- Surface Blow in 3 min
30-FSIP- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1614.08	93.62	Initial Hydro-static
1	13.42	93.07	Open To Flow (1)
30	38.69	97.82	Shut-In(1)
60	668.95	100.94	End Shut-In(1)
60	40.94	100.65	Open To Flow (2)
91	60.26	102.80	Shut-In(2)
120	638.44	103.33	End Shut-In(2)
121	1506.91	103.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	WCM 40%w 60%m	0.34

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48660 **DST#: 2**

Test Start: 2012.09.23 @ 02:08:00

GENERAL INFORMATION:

Formation: **LKC " D "**
Deviated: No Whipstock: 2104.00 ft (KB)
Time Tool Opened: 03:42:15
Time Test Ended: 07:07:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Jim Svaty
Unit No: 58

Interval: 3298.00 ft (KB) To 3318.00 ft (KB) (TVD)
Total Depth: 3318.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

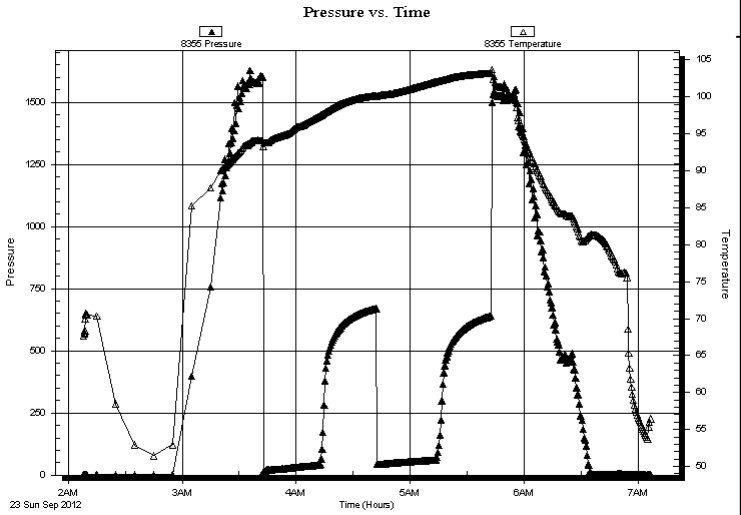
Reference Elevations: 2104.00 ft (KB)
2099.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8355 **Outside**

Press@RunDepth: psig @ 3299.00 ft (KB)
Start Date: 2012.09.23 End Date: 2012.09.23
Start Time: 02:08:05 End Time: 07:06:59

Capacity: 8000.00 psig
Last Calib.: 2012.09.23
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP- Surface Blow Building to 1" in 10 min
30-ISIP- No Blow
30-FFP- Surface Blow in 3 min
30-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
70.00	WCM 40%w 60%m	0.34

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48660 **DST#: 2**

Test Start: 2012.09.23 @ 02:08:00

Tool Information

Drill Pipe:	Length:	3190.00 ft	Diameter:	3.80 inches	Volume:	44.75 bbl	Tool Weight:		2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.75 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25 inches	Volume:	0.59 bbl	Weight to Pull Loose:		38000.00 lb
					Total Volume:	45.34 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		32.00 ft					String Weight:	Initial	34000.00 lb
Depth to Top Packer:		3298.00 ft						Final	34000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		20.00 ft							
Tool Length:		40.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3279.00		
Shut In Tool	5.00			3284.00		
Hydraulic tool	5.00			3289.00		
Packer	5.00			3294.00	20.00	Bottom Of Top Packer
Packer	4.00			3298.00		
Stubb	1.00			3299.00		
Recorder	0.00	8355	Outside	3299.00		
Recorder	0.00	8674	Inside	3299.00		
Perforations	16.00			3315.00		
Bullnose	3.00			3318.00	20.00	Bottom Packers & Anchor
Total Tool Length:	**40.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48660 **DST#: 2**

Test Start: 2012.09.23 @ 02:08:00

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:	67000 ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.55 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	inches				

Recovery Information

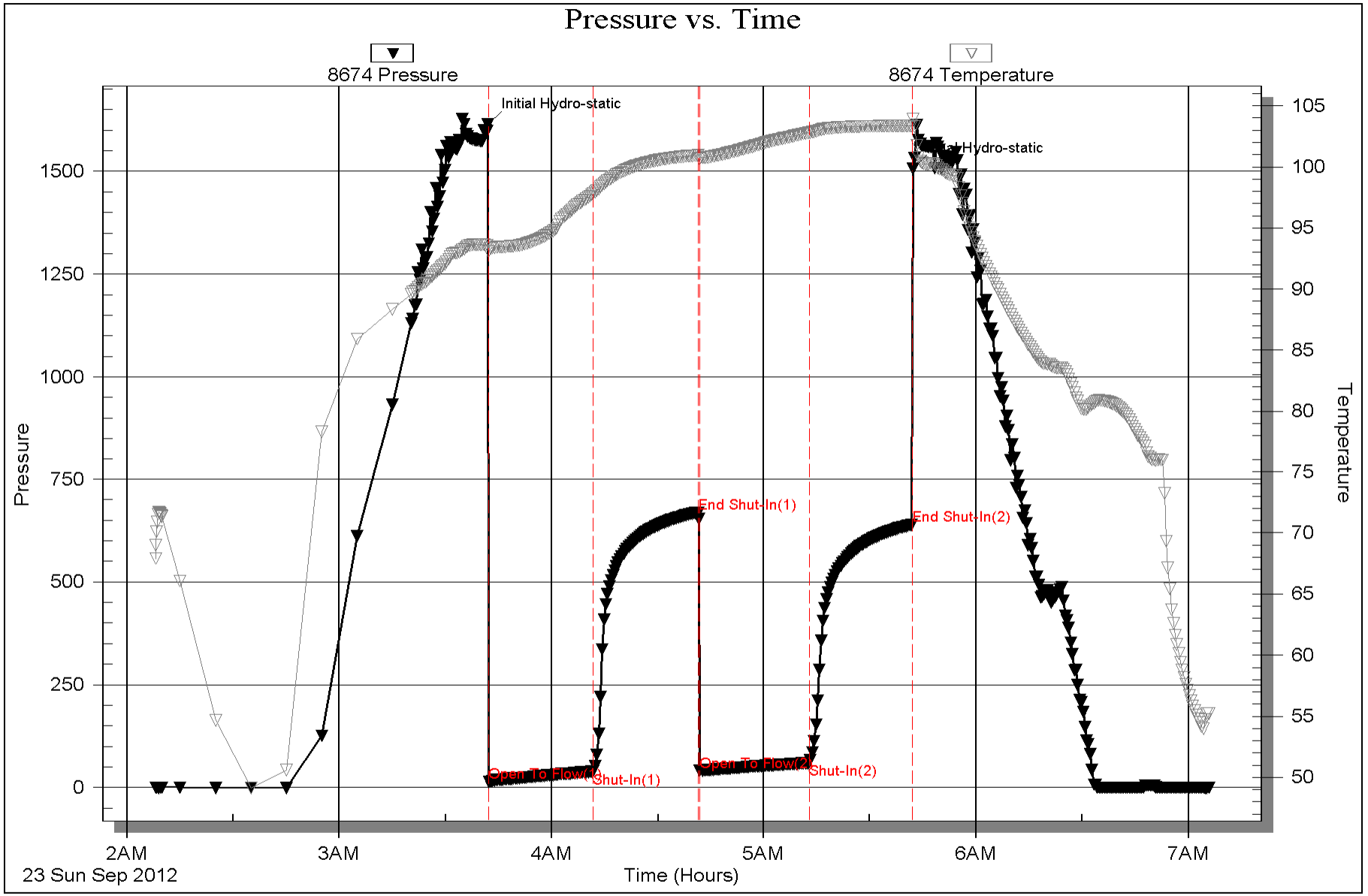
Recovery Table

Length ft	Description	Volume bbl
70.00	WCM 40%w 60%m	0.344

Total Length: 70.00 ft Total Volume: 0.344 bbl

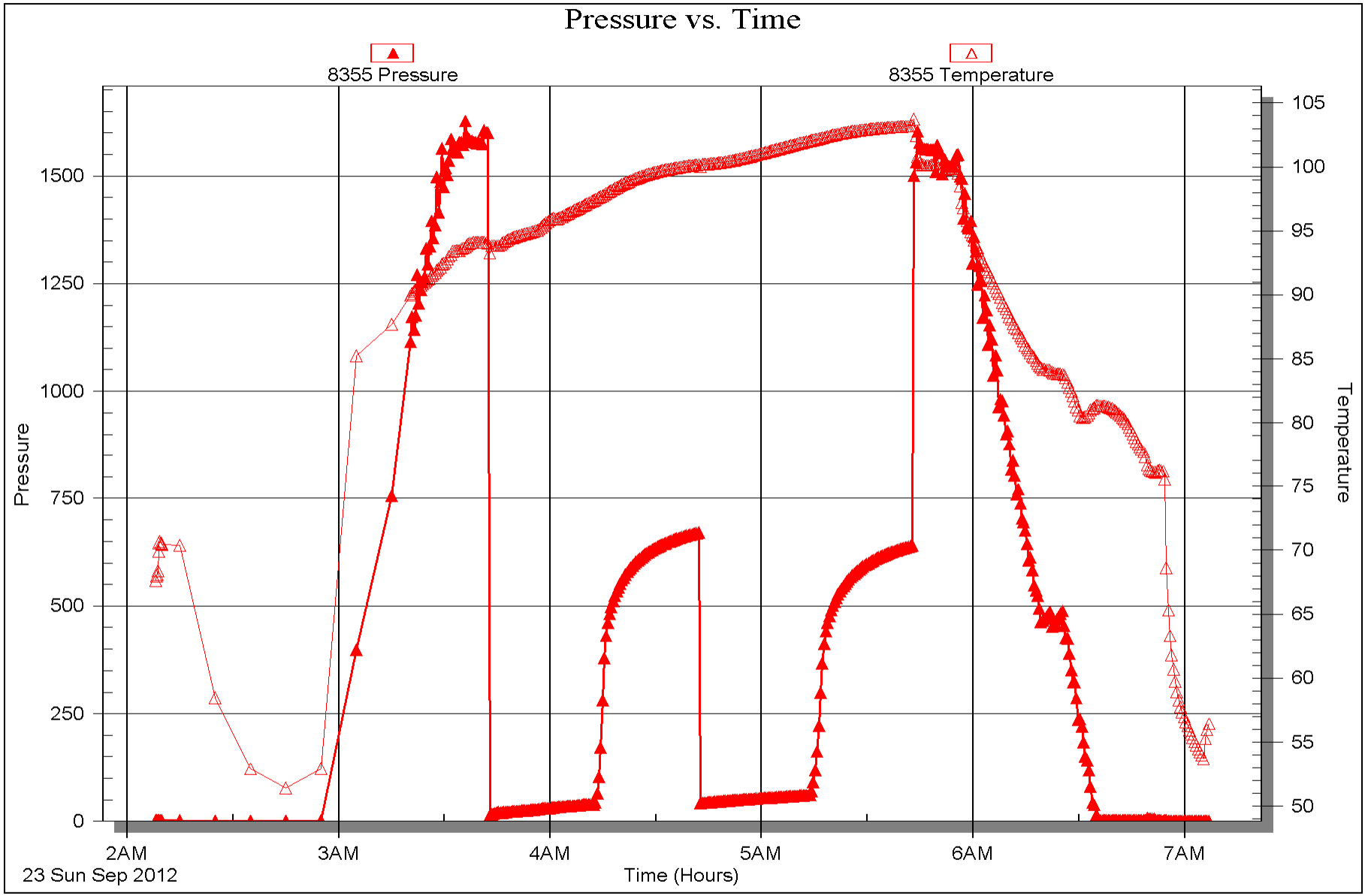
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: .18 @ 45

Serial #: 8674 **Inside** John O Farmer Inc States A # 2 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 48660 Printed: 2012.09.27 @ 09:37:31

Serial #: 8355 **Outside** John O Farmer Inc States A # 2 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 48660 Printed: 2012.09.27 @ 09:37:32

DRILL STEM TEST REPORT

Prepared For: **John O Farmer Inc**

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

States A # 2

15 5s 20w Phillips,KS

Start Date: 2012.09.24 @ 06:15:00
End Date: 2012.09.24 @ 14:11:00
Job Ticket #: 48661 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.27 @ 09:36:26

DRILL STEM TEST REPORT

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48661 **DST#: 3**

Test Start: 2012.09.24 @ 06:15:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: 2104.00 ft (KB)
Time Tool Opened: 10:44:15
Time Test Ended: 14:11:00

Test Type: Conventional Straddle (Reset)
Tester: Jim Svaty
Unit No: 58

Interval: 3519.00 ft (KB) To 3555.00 ft (KB) (TVD)
Total Depth: 3600.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

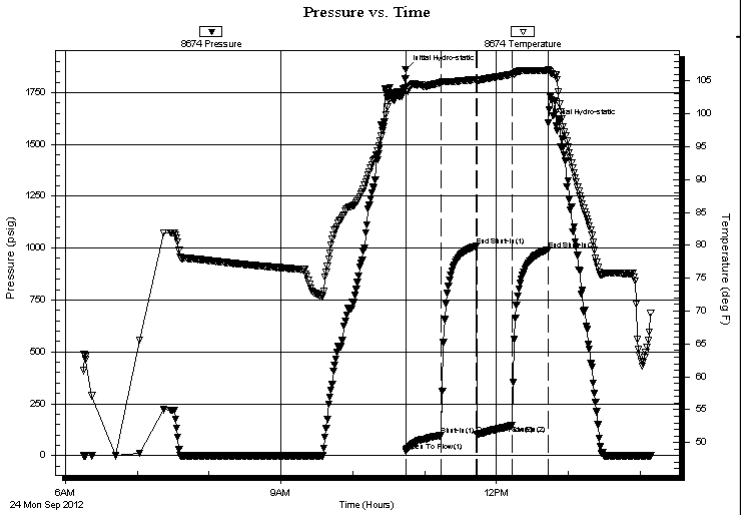
Reference Elevations: 2104.00 ft (KB)
2099.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8674 **Inside**

Press@RunDepth: 144.94 psig @ 3520.00 ft (KB)
Start Date: 2012.09.24 End Date: 2012.09.24
Start Time: 06:15:05 End Time: 14:09:14

Capacity: 8000.00 psig
Last Calib.: 2012.09.24
Time On Btm: 2012.09.24 @ 10:44:00
Time Off Btm: 2012.09.24 @ 12:43:15

TEST COMMENT: 30-IFP- BOB in 29 min
30-ISIP- Very Weak Surface Blow in 4 min
30-FFP- BOB in 21 min
30-FSIP- Weak Surface Blow in 1 min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1861.13	103.89	Initial Hydro-static
1	22.56	103.29	Open To Flow (1)
30	97.07	104.75	Shut-In(1)
59	1009.18	105.22	End Shut-In(1)
60	102.74	104.90	Open To Flow (2)
89	144.94	106.01	Shut-In(2)
119	991.64	106.56	End Shut-In(2)
120	1601.95	106.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	O&WCM 5%o 40%w 55%m	0.59
62.00	OCM 10%o 90%m	0.87
112.00	MCO 45%m 55%o	1.57

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48661 **DST#: 3**

Test Start: 2012.09.24 @ 06:15:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: 2104.00 ft (KB)
Time Tool Opened: 10:44:15
Time Test Ended: 14:11:00

Test Type: Conventional Straddle (Reset)
Tester: Jim Svaty
Unit No: 58

Interval: 3519.00 ft (KB) To 3555.00 ft (KB) (TVD)
Total Depth: 3600.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

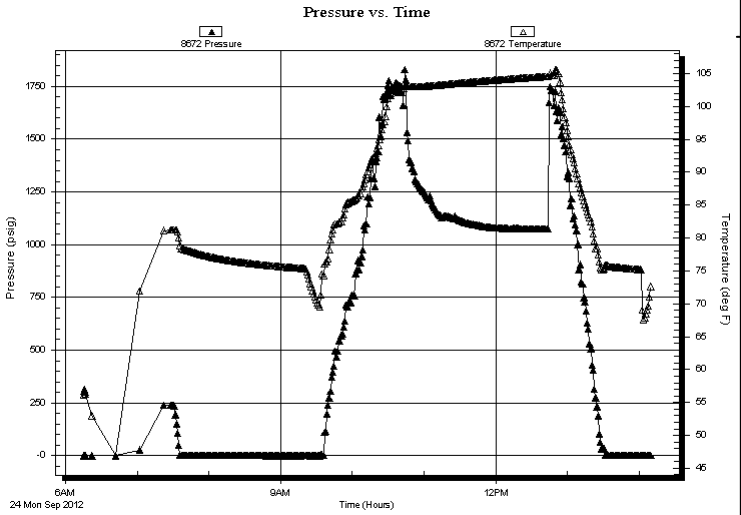
Reference Elevations: 2104.00 ft (KB)
2099.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8672 **Below (Straddle)**

Press@RunDepth: psig @ 3566.00 ft (KB)
Start Date: 2012.09.24 End Date: 2012.09.24
Start Time: 06:15:05 End Time: 14:10:29

Capacity: 8000.00 psig
Last Calib.: 2012.09.24
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IFP- BOB in 29 min
30-ISIP- Very Weak Surface Blow in 4 min
30-FFP- BOB in 21 min
30-FSIP- Weak Surface Blow in 1 min



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	O&WCM 5%o 40%w 55%m	0.59
62.00	OCM 10%o 90%m	0.87
112.00	MCO 45%m 55%o	1.57

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48661 **DST#: 3**

Test Start: 2012.09.24 @ 06:15:00

Tool Information

Drill Pipe:	Length:	3407.00 ft	Diameter:	3.80 inches	Volume:	47.79 bbl	Tool Weight:		2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.75 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25 inches	Volume:	0.59 bbl	Weight to Pull Loose:		50000.00 lb
					Total Volume:	48.38 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		28.00 ft					String Weight:	Initial	36000.00 lb
Depth to Top Packer:		3519.00 ft						Final	40000.00 lb
Depth to Bottom Packer:		3555.00 ft							
Interval between Packers:		36.00 ft							
Tool Length:		101.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3500.00		
Shut In Tool	5.00			3505.00		
Hydraulic tool	5.00			3510.00		
Packer	5.00			3515.00	20.00	Bottom Of Top Packer
Packer	4.00			3519.00		
Stubb	1.00			3520.00		
Recorder	0.00	8355	Outside	3520.00		
Recorder	0.00	8674	Inside	3520.00		
Perforations	31.00			3551.00		
Blank Off Sub	1.00			3552.00		
Blank Spacing	3.00			3555.00	36.00	Tool Interval
Packer	0.00			3555.00		
Blank Spacing	2.00			3557.00		
Perforations	9.00			3566.00		
Recorder	0.00	8672	Below	3566.00		
Blank Spacing	31.00			3597.00		
Bullnose	3.00			3600.00	45.00	Bottom Packers & Anchor
Total Tool Length:	**101.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

John O Farmer Inc

PO Box 352
Russell KS 67665-2635

ATTN: Austin Klaus

15 5s 20w Phillips,KS

States A # 2

Job Ticket: 48661 **DST#: 3**

Test Start: 2012.09.24 @ 06:15:00

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:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1000.00 ppm				
Filter Cake:	inches				

Recovery Information

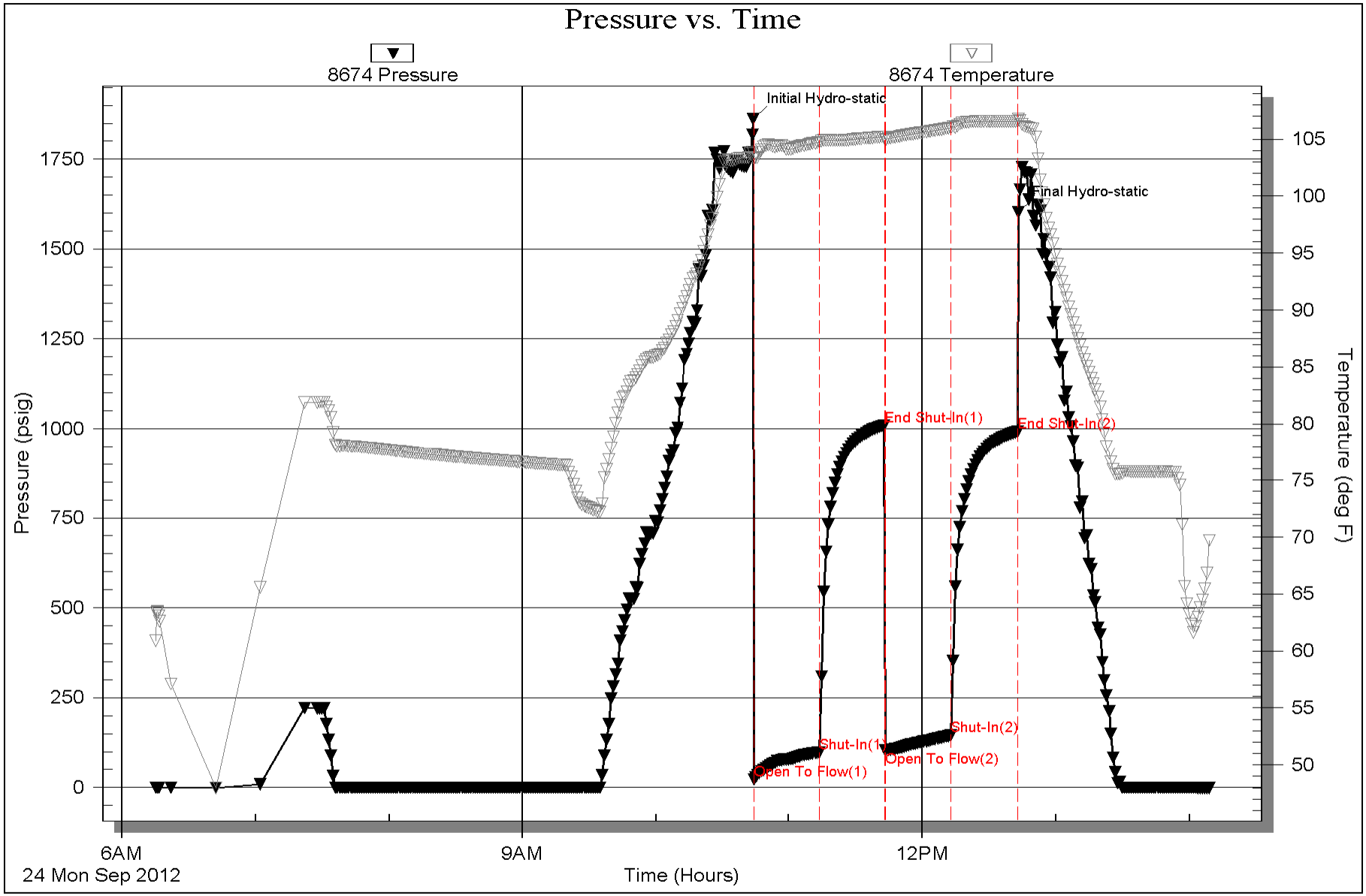
Recovery Table

Length ft	Description	Volume bbl
120.00	O&WCM 5%o 40%w 55%m	0.590
62.00	OCM 10%o 90%m	0.870
112.00	MCO 45%m 55%o	1.571

Total Length: 294.00 ft Total Volume: 3.031 bbl

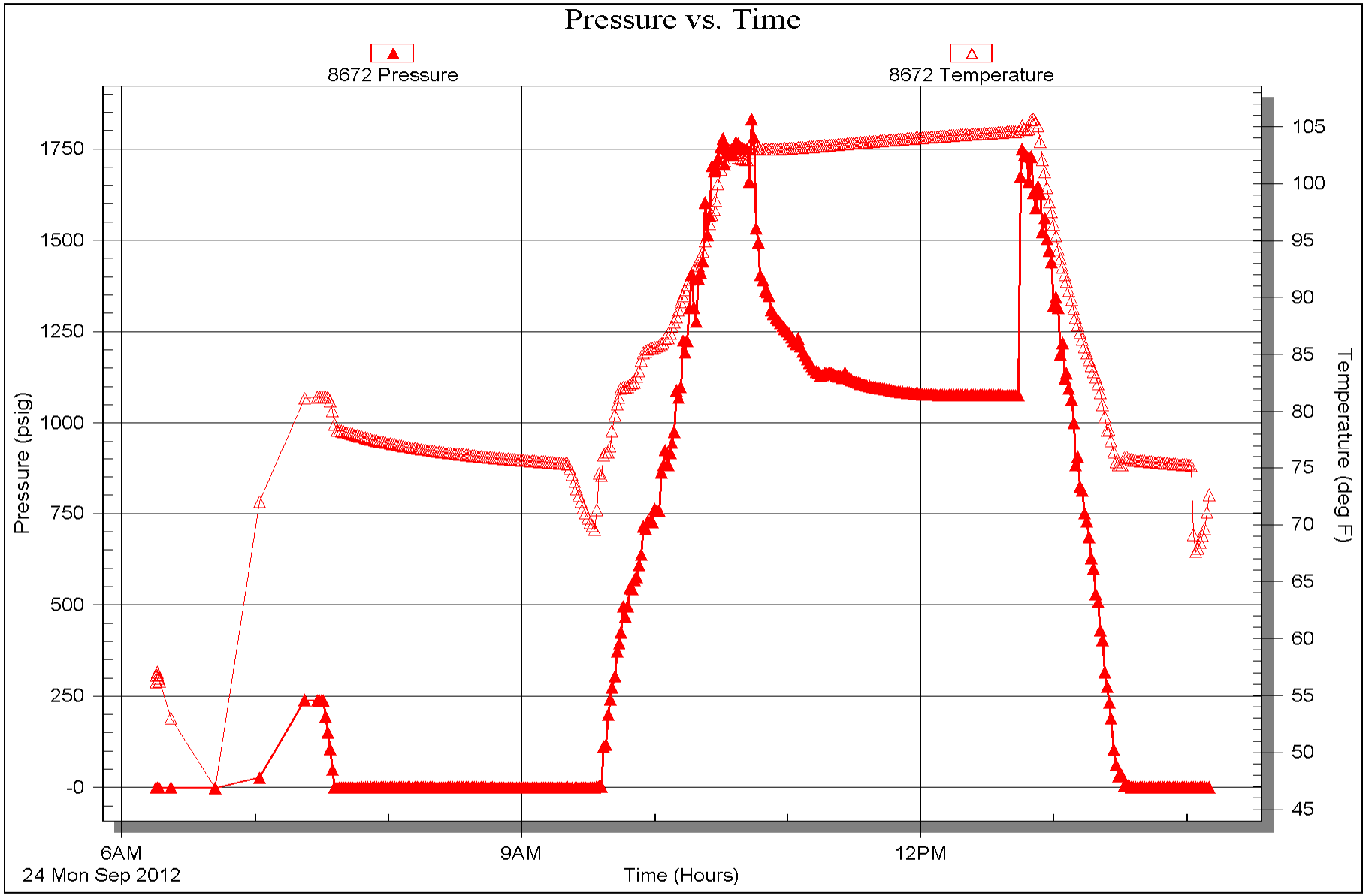
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8674 **Inside** John O Farmer Inc States A # 2 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 48661 Printed: 2012.09.27 @ 09:36:30

Serial #: 8672 Below (Straddle) Farmer Inc States A # 2 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 48661 Printed: 2012.09.27 @ 09:36:31

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 48659

Well Name & No. States A. #2 Test No. 1 Date 9-22-12

Company John O. Farmer, Inc. Elevation 2104 KB 2099 GL

Address 370 W. Wichita Ave Box 352 Russell KS 67665-2635

Co. Rep / Geo. Austin Klaus Rig WW-6

Location: Sec. 15 Twp. 5S Rge. 20W Co. Phillips State KS

Interval Tested 3271 - 3300 Zone Tested LKC "C"

Anchor Length 29' Drill Pipe Run 3161 Mud Wt. 8.9

Top Packer Depth 3266 Drill Collars Run 120 Vis 56

Bottom Packer Depth 3271 Wt. Pipe Run -0- WL 7.6

Total Depth 3300 Chlorides 800 ppm System LCM 2½

Blow Description IFP - BOB in 14 min

ISIP - Weak Surface Blow Died in 25 min.

FFP - BOB in 16 min.

FSIP - Very Weak Surface Blow Died 10 min.

Rec 186	Feet of mcw	%gas	%oil	90	%water	10	%mud
Rec 124	Feet of VSOmcw	%gas	2	%oil	88	%water	10	%mud
Rec 50	Feet of OMCW	%gas	5	%oil	75	%water	20	%mud
Rec 8	Feet of mcO	%gas	95	%oil		%water	5	%mud
Rec 120	Feet of WTP	%gas		%oil		%water		%mud

Rec Total 368 BHT 104 Gravity API RW .09 @ 67 °F Chlorides 94000 ppm

(A) Initial Hydrostatic	1599	☒ Test	1150	T-On Location	12:39
(B) First Initial Flow	17	☐ Jars		T-Started	14:15
(C) First Final Flow	117	☐ Safety Joint		T-Open	16:19
(D) Initial Shut-In	714	☐ Circ Sub		T-Pulled	18:19
(E) Second Initial Flow	119	☐ Hourly Standby		T-Out	20:15
(F) Second Final Flow	181	☒ Mileage	132 RT 204.60	Comments	
(G) Final Shut-In	693	☐ Sampler			
(H) Final Hydrostatic	1535	☐ Straddle		☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	30	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	30	☐ Extra Recorder		Sub Total	0
Final Flow	30	☐ Day Standby		Total	1354.60
Final Shut-In	30	☐ Accessibility		MP/DST Disc't	
		Sub Total	1354.60		

Approved By _____ Our Representative _____

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 48660

Well Name & No. States A #2 Test No. 2 Date 9-23-12

Company John O. Farmer Inc. Elevation 2104 KB 2099 GL

Address 370 W. Wichita Ave Box 352 Russell Ks. 67665-2635

Co. Rep / Geo. Austin Klaus Rig WW - 6

Location: Sec. 15 Twp. 5 S Rge. 20 W Co. Phillips State KS

Interval Tested 3298 - 3318 Zone Tested LKC "D"

Anchor Length 20 Drill Pipe Run 3190 Mud Wt. 8.9

Top Packer Depth 3293 Drill Collars Run 120 Vis 56

Bottom Packer Depth 3298 Wt. Pipe Run 0 WL 7.6

Total Depth 3318 Chlorides 800 ppm System LCM 2½

Blow Description IFP - Surface Blow Building to 1in in 10min

ISIP - No Blow

FFP - Surface Blow in 3min

FSIP - No Blow

Rec 70	Feet of WCM	%gas	%oil 40	%water 60	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 70 BHT 103 Gravity API RW .18 @ 45 °F Chlorides 67,000 ppm

(A) Initial Hydrostatic 1614	☒ Test 1150	T-On Location 02:07	
(B) First Initial Flow 13	☐ Jars	T-Started 02:08	
(C) First Final Flow 38	☐ Safety Joint	T-Open 03:43	
(D) Initial Shut-In 668	☐ Circ Sub	T-Pulled 05:43	
(E) Second Initial Flow 40	☐ Hourly Standby	T-Out 07:07	
(F) Second Final Flow 60	☒ Mileage 204.60	Comments	
(G) Final Shut-In 638	☐ Sampler		
(H) Final Hydrostatic 1506	☐ Straddle	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 30	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 30	☐ Extra Recorder	Sub Total 0	
Final Flow 30	☐ Day Standby	Total 1354.60	
Final Shut-In 30	☐ Accessibility	MP/DST Disc't	
	Sub Total 1354.60		

Approved By Our Representative

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 48661

Well Name & No. States A #2 Test No. 3 Date 9-24-12

Company John O. Farmer Inc Elevation 2104 KB 2099 GL

Address 370 W. Wichita Ave Box 352 Russell Ks. 67665-2635

Co. Rep / Geo. Austin Klaus Rig WW - 6

Location: Sec. 15 Twp. 5 S Rge. 20 W Co. Phillips State KS

Interval Tested 3519-3555 Zone Tested Arbuckle

Anchor Length 36' (45' Tail Pipe) Drill Pipe Run 3407 Mud Wt. 9

Top Packer Depth 3519 Drill Collars Run 120 Vis 53

Bottom Packer Depth 3555 Wt. Pipe Run 0 WL 8.0

Total Depth 3600 Chlorides 1000 ppm System LCM 2

Blow Description IFP- BOB 29min

ISIP- Very Weak Surface Blow in 4min

FFP- BOB 21min

FSIP- Weak Surface Blow in 1min

Rec	120	Feet of	O&WCM	%gas	5	%oil	40	%water	55 %mud
Rec	62	Feet of	OCM	%gas	10	%oil		%water	90 %mud
Rec	112	Feet of	MCO	%gas	55	%oil		%water	45 %mud
Rec		Feet of		%gas		%oil		%water	%mud
Rec		Feet of		%gas		%oil		%water	%mud

Rec Total 294 BHT 106 Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic	1861	☒ Test	1150	T-On Location	06:00
(B) First Initial Flow	22	☐ Jars		T-Started	06:15
(C) First Final Flow	97	☐ Safety Joint		T-Open	10:45
(D) Initial Shut-In	1009	☐ Circ Sub		T-Pulled	12:45
(E) Second Initial Flow	102	☐ Hourly Standby		T-Out	14:11
(F) Second Final Flow	144	☒ Mileage	204.60	Comments	
(G) Final Shut-In	991	☐ Sampler			
(H) Final Hydrostatic	1601	☒ Straddle	600	☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	30	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	30	☐ Extra Recorder		Sub Total	0
Final Flow	30	☐ Day Standby		Total	1954.60
Final Shut-In	30	☐ Accessibility		MP/DST Disc't	
		Sub Total	1954.60		

Approved By Our Representative

AUSTIN B. KLAUS

Cell 785.650.3629
Work 785.483.3145
Ext 225

PO BOX 352
Russell, KS 67665
austin.klaus@johnofarmer.com

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name:	**States A #2**		
Location:	**Phillips County**		
License Number:	**API #15-147-20692-0000**	**Region:**	**Kansas**
Spud Date:	**9/20/2012**	**Drilling Completed:**	**9/24/2012**
Surface Coordinates:	**110' FNL & 1,170' FEL** **Section 15 - Township 5 South - Range 20 West**		
Bottom Hole Coordinates:	**Vertical well with minimal deviation, same as above**		
Ground Elevation (ft):	**2099'**	**K.B. Elevation (ft):**	**2104'**
Logged Interval (ft):	**3000' To: RTD**	**Total Depth (ft):**	**RTD: 3625' LTD: 3596'**
Formation:	**Topeka-Arbuckle**		
Type of Drilling Fluid:	**Chemical (Andy's)**		

OPERATOR

Company: John O. Farmer, Inc.
Address: P.O. Box 352
Russell, KS 67665-0352

COMMENTS

The States A #2 well was drilled by WW Drilling Rig #6 (Tool Pusher: Jason Richardson).

The location for the States A #2 well was found via 3-D seismic survey. Based on the results of the drill stem tests that were conducted and the samples and wireline logs that were evaluated, the decision was made to run 5 1/2" casing to further evaluate the States A #2 well.

ROCK TYPES

Anhy, Bent, Brec, Cht, Clyst, Coal, Congl, Dol, Gyp, Igne, Lmst, Meta, Mrlst, Salt, Shale, Shcol, Shgy, Sltst, Ss, Till

OTHER SYMBOLS

POROSITY
- E Earthy
- Fenest
- F Fracture
- Inter
- Moldic
- Organic
- P Pinpoint
- V Vuggy

SORTING
- W Well
- M Moderate
- P Poor

ROUNDING
- R Rounded
- r Subrnd
- a Subang
- A Angular

OIL SHOW
- Even

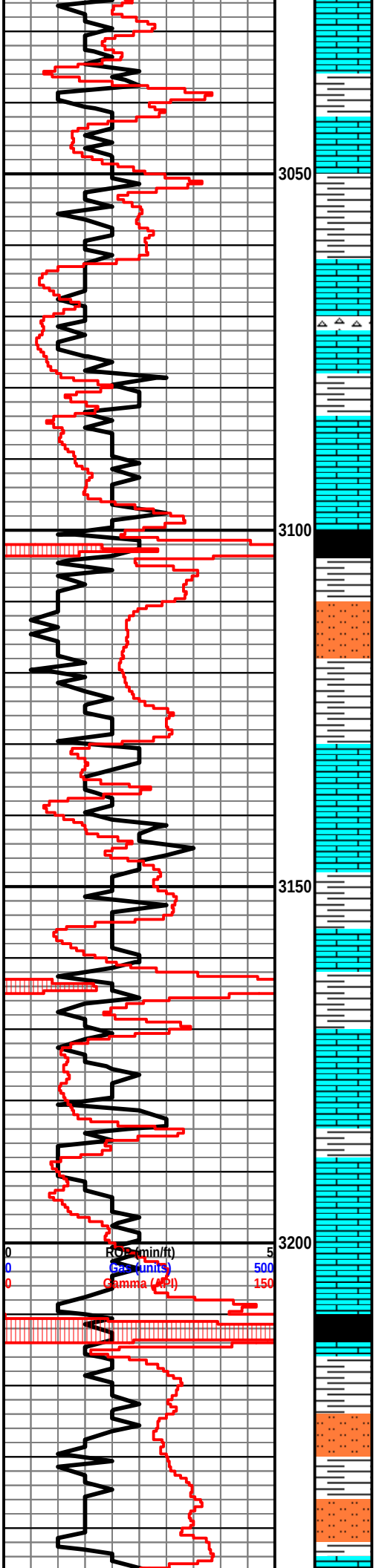
- Spotted
- Ques
- D Dead

INTERVAL
- Core
- Dst

EVENT
- Rft
- Sidewall

Curve Track 1
ROP (min/ft)
Gas (units)
Gamma (API)

Depth	Lithology	Oil Shows	Geological Descriptions	Formation Tops & Remarks	Drill Stem Tests
2900			The open-hole logging was performed by Mr. Larry Smith with the Perforators, LLC (Hays, KS). Logs included: Compensated Neutron/Compensated Density, Dual Induction, and Microlog. Formation tops and datums from the open-hole logs include the following: **E-Log Tops:** **Anhydrite: 1626' (478)** **Topeka: 3015' (-911)** **Heebner: 3210' (-1106)** **Toronto: 3246' (-1142)** **Lansing: 3257' (-1153)** **B/KC: 3453' (-1349)** **Arbuckle: 3541' (-1437)**		
2950			Sh: gry-brn-grn, soft		
3000			Sh: ala Ls: tan-gry, fn-sub xln, mostly DNS	**Topeka 3013'(-909)**	



Ls: ala

Sh: gry-drk gry

Ls: tan-lt gry, fn-sub xln, mostly DNS, sl fossil

Sh: drk gry

Ls: tan-gry, fn-sub xln, mostly DNS, fossil, sl chert-off wh

Ls: ala

Sh: drk gry-blk, carb

Sh, Sltst: gry-grn, vry fn grn

Sh: drk gry

Ls: tan-lt gry, fn-sub xln, sl fossil, sl chalky

Ls: ala

Sh: drk gry-blk

Sh: gry-blk

Ls: off wh-tan, fn-sub xln, fossil, DNS

Ls: ala

Sh: drk gry

Ls: off wh-tan, fn-sub xln, fossil, DNS

Sh: blk, carb, fissile

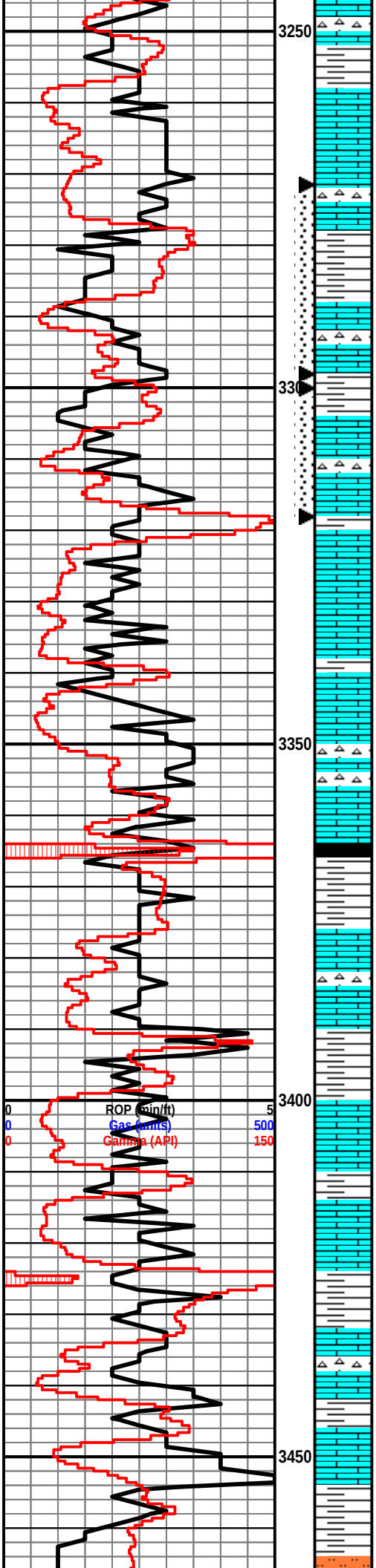
Heebner
3207'(-1103)

Sh: drk gry

Sltst: multicolor, soft

Toronto

DST #1 3,271'-3,300' LKC C
30"-30"-30"-30"
IF: BOB in 14", surface blow back
FF: BOB in 16", weak surface blow back
Rec: 120' GIP



Ls: off wh-tan, fn-sub xln, fossil, barren, NSFO, sl odor, sl chert-off wh

Ls: off wh-tan, fn-sub xln, mostly DNS

Ls: off wh-tan, fn-sub xln, barren, DNS, NSFO, sl chert-off wh

Sh: drk gry-grn

Ls: off wh-tan, fn xln, scat pp vuggy & int xln porosity, vry lt oil st in porosity, VSSFO, sl odor, chert-off wh

Sh: drk gry-brn-grn, soft

Ls: off wh-tan, fn xln, poor int xln & pp vuggy porosity, fair oil st, SSFO, fair odor, chert-off wh

Ls: off wh-tan, fn xln, poor int xln porosity, lt oil st in porosity, VSSFO, fair odor, fossil

Ls: off wh-tan, fn xln, scat pp vuggy porosity, lt oil st, NSFO, sl odor

Ls: off wh-tan, fn-sub xln, vry poor int xln porosity, vry lt oil st in porosity, NSFO, hvy chert-off wh

Sh: drk gry-blk

Ls: off wh-tan, fn xln, vry poor int xln porosity, vry lt oil st in porosity, fossil, sl chalky, hvy chert-off wh

Sh: gry-brn

Ls: off wh-lt gry, fn xln, scat int xln porosity, vry lt oil st in porosity, NSFO, sl odor

Sh: drk gry

Ls: off wh-tan, fn xln, poor int xln porosity, vry lt oil st in porosity, sl odor, NSFO

Sh: drk gry

Ls: off wh-lt gry, fn xln, scat pp vuggy porosity, NSFO, sl chert-off wh

Ls: ala, DNS

Sh: gry-brn-grn, soft

3243'(-1139)

Lansing
3255'(-1151)

A

B

C

D

E

F

G

H

I

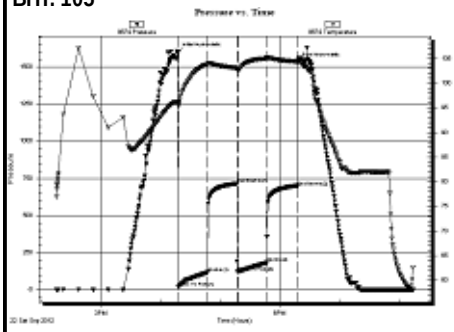
J

K

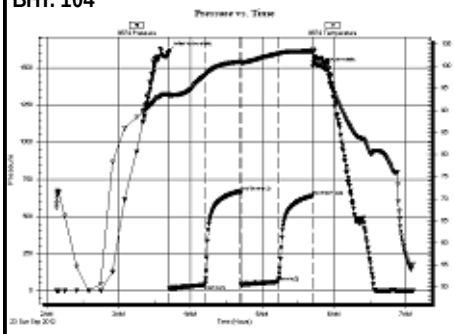
L

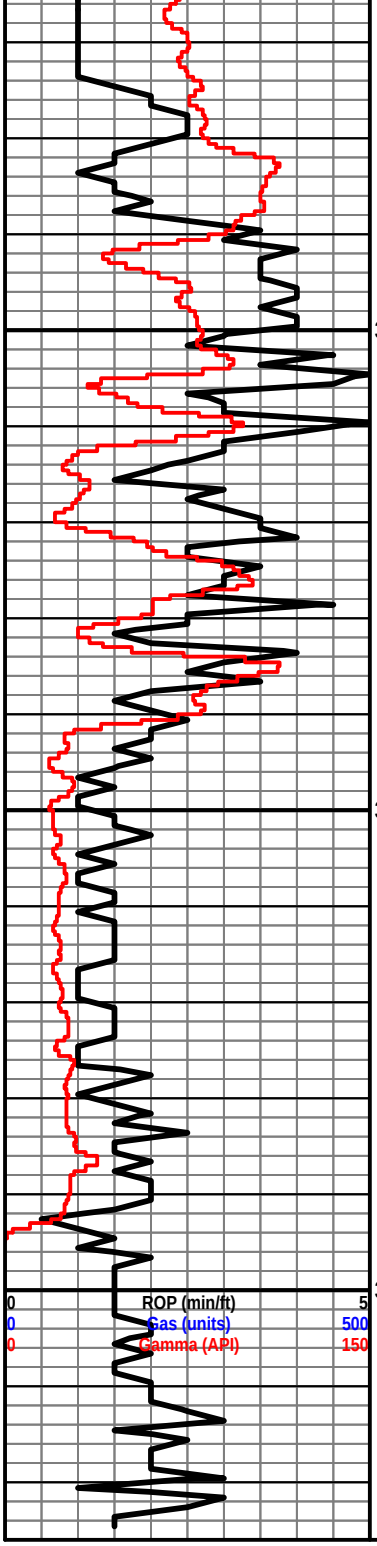
B/KC
3456'(-1352)

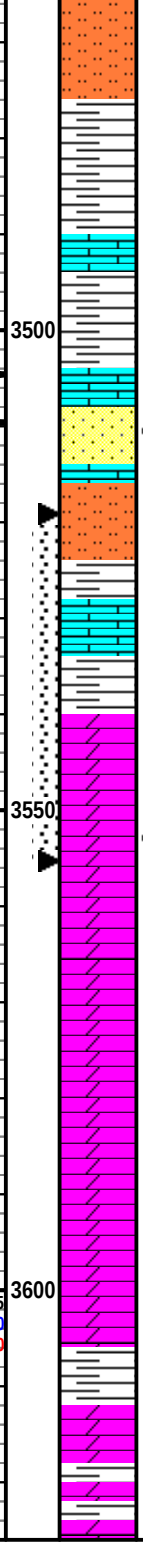
8' MCO (5% M, 95% O)
50' OCMW (5% O, 20% M, 75% W)
124' SOCMW (2% O, 10% M, 88% W)
186' MCW (10% M, 90% W)
FP: 18-117, 120-181#
SIP: 715-694#
HP: 1,600-1,535#
BHT: 105



DST #2 3,298'-3,318' LKC D
30"-30"-30"-30"
IF: weak blow built to 1"
FF: weak surface blow
Rec: 70' WCM (40% W, 60% M)
FP: 13-39, 41-60#
SIP: 669-638#
HP: 1,614-1,507
BHT: 104







Sltst: gry-grn, fn grn

Sh: multicolor, soft

Sh: drk gry-rd, vry soft

Ss: off wh, vry fn grn, well sorted, well rounded, VSSFO, sl odor

Sltst: off wh, fn-md grn, well sorted, well rounded, NSFO

Sh: multicolor, soft

Dolo: off wh, fn-md xln, poor int xln porosity, oil st in porosity, FSFO, fair odor

Dolo: off wh, fn-md sucrosic xln, fair int xln porosity, fair-good oil st, SFO, good odor

Dolo: ala, SSFO

Dolo: off wh, fn xln, poor int xln porosity, vry lt oil st, NSFO, no odor

Dolo: ala

Dolo: ala, barren

Sh: multicolor, soft

Dolo: off wh-tan, fn xln, vry poor int xln porosity, NSFO

Arbuckle
3539'(-1435)

DST #3 3,519'-3,555' Top 14' of Arbuckle
30"-30"-30"-30"
IF: BOB in 29", weak surface blow back
FF: BOB in 21", weak surface blow back
Rec: 112' MCO (45% M, 55% O)
62' OCM (10% O, 90% M)
120' O&WCM (5% O, 40% W, 55% M)
FP: 22-97, 102-144#
SIP: 1,009-991#
HP: 1,861-1,601#
BHT: 106