



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1213709  
OIL & GAS CONSERVATION DIVISION

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 # \_\_\_\_\_

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
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

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

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

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical 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

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1213709

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**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 <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  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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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
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> 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 <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
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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 <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Baird Oil Company LLC
Well Name	David Worcester 2-24
Doc ID	1213709

Tops

Name	Top	Datum
Anhydrite	1781	+382
Base Anhydrite	1812	+351
Topeka	3154	-991
Heebner	3363	-1200
Toronto	3385	-1222
Lansing	3399	-1236
Base Kansas City	3588	-1425
Arbuckle	3681	-1518
Total Depth	3727	-1564





Global Cementing LLC

18048 I-70 Road  
Russell, KS 67665

# Invoice

Date	Invoice #
5/19/2014	1337

Bill To
BAIRD OIL COMPANY LLC PO BOX 428 LOGAN,KS 67646

P.O. No.	Terms	Project
DAVID WORCES...	Net 30	

Quantity	Description	Rate	Amount
150	COMMON	15.50	2,325.00
5	CALCIUM	53.00	265.00
3	GEL	23.50	70.50
158	HANDLING	2.10	331.80
	BULK MILEAGE	417.12	417.12
1	TRI-PLEX PUMP CHARGE FOR SURFACE	1,050.00	1,050.00
66	PUMP TRUCK MILEAGE	6.50	429.00
66	PICKUP	2.50	165.00
	DEDUCT 15% FROM TOTAL IF PAID WITHIN 30 DAYS OF INVOICE GRAHAM CO	7.15%	0.00
<p><i>R5/29/2014</i> <i>P5/30/2014</i> <i>David W 190402 5053.42</i> <i>David Worcester 2.24- Pump charge,</i> <i>Cement + other misc. used to</i> <i>Cement surface casing</i></p> <p><i>5/30/2014</i> <i>CK#14501</i></p>			

Thank you for your business.

Phone #	Fax #	E-mail
785-324-2658	785-445-3526	

**Total** \$5,053.42



# GLOBAL CEMENTING, L.L.C.

1337

REMIT TO 18048 170RD  
RUSSELL, KS 67665

SERVICE POINT: Russell, KS

DATE <u>5-19-14</u>	SEC. <u>24</u>	TWP. <u>7</u>	RANGE <u>22</u>	CALLED OUT	ON LOCATION	JOB START <u>4:00pm</u>	JOB FINISH <u>4:30pm</u>
LEASE <u>David Worcester</u>	WELL #. <u>2-24</u>	LOCATION			COUNTY <u>Graham</u>	STATE <u>KS</u>	
OLD OR <input checked="" type="radio"/> NEW (CIRCLE ONE)							

CONTRACTOR Ww Drilling

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. \_\_\_\_\_

CASING SIZE 8 5/8 DEPTH \_\_\_\_\_

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

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

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

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

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

CEMENT LEFT IN CSG. 20ft

PERFS \_\_\_\_\_

DISPLACEMENT \_\_\_\_\_

OWNER \_\_\_\_\_

CEMENT AMOUNT ORDERED 150sy com 3%cc

2%gel

EQUIPMENT

PUMP TRUCK CEMENTER Heath

# P1 HELPER Coody - Brad

BULK TRUCK DRIVER Eric

# B4

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

# \_\_\_\_\_

COMMON \_\_\_\_\_ @ \_\_\_\_\_

POZMIX \_\_\_\_\_ @ \_\_\_\_\_

GEL \_\_\_\_\_ @ \_\_\_\_\_

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

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

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

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

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

REMARKS:

Ran 5 Jts of 8 5/8 casing and landing jt

Est Circulation with mud pump

Hook up and mix 150sy and disp 12 1/4/161 of H2O - shut in @ 200ps

Cement did circulate

CHARGE TO: Beird Oil

STREET \_\_\_\_\_

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

TOTAL \_\_\_\_\_

SERVICE

DEPTH OF JOB \_\_\_\_\_

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

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

MILEAGE 660 @ \_\_\_\_\_

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

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL \_\_\_\_\_

PLUG & FLOAT EQUIPMENT

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL \_\_\_\_\_

Global Cementing, L.L.C.,  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Calvin Brummett

SIGNATURE Calvin Brummett

SALES TAX (If Any) \_\_\_\_\_

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

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



# SWIFT



Services, Inc.

P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



## Invoice

DATE	INVOICE #
5/24/2014	25967

BILL TO
Baird Oil Company LLC PO Box 428 Logan, KS 67646

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-24	David Wooster	Graham	WW Drilling	Oil	Development	5-1/2" LongString	Wayne

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	6.00	480.00
578D-L	Pump Charge - Long String - 3777 Feet	1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)	2	Gallon(s)	25.00	50.00T
280	Flocheck 21	500	Gallon(s)	3.00	1,500.00T
402-5	5 1/2" Centralizer	12	Each	70.00	840.00T
403-5	5 1/2" Cement Basket	1	Each	300.00	300.00T
404-5	5 1/2" Port Collar - 1790 Feet	1	Each	2,900.00	2,900.00T
406-5	5 1/2" Latch Down Plug & Baffle	1	Each	275.00	275.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill	1	Each	375.00	375.00T
411-5	5 1/2" Recipo Scratcher	40	Each	50.00	2,000.00T
325	Standard Cement	200	Sacks	14.50	2,900.00T
326	60/40 Pozmix (2% Gel)	40	Sacks	11.50	460.00T
277	Gilsonite (Coal Seal)	400	Lb(s)	0.75	300.00T
276	Flocele	50	Lb(s)	2.50	125.00T
283	Salt	1,550	Lb(s)	0.20	310.00T
285	CFR-1	100	Lb(s)	4.50	450.00T
290	D-Air	10	Gallon(s)	42.00	420.00T
581D	Service Charge Cement	240	Sacks	2.00	480.00
583D	Drayage	969.12	Ton Miles	1.00	969.12
	Subtotal				16,634.12
	Sales Tax Graham County			7.15%	944.16
	<i>R5/29/2014</i> <i>P5/30/2014</i> <i>David W 190402</i>		17,578.28		
	<i>David Worcester 2-24 - Pump charge, Cement + other misc. expenses used to cement production casing</i>				

<b>We Appreciate Your Business!</b>	<b>Total</b>	\$17,578.28
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**Services, Inc.**

CHARGE TO: **BARD'S OIL Co. Inc**  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET **25967**

PAGE 1 OF 2

SERVICE LOCATION# <b>1. Ness City, KS</b>	WELL/PROJECT NO. <b>2-24</b>	LEASEE <b>DAVID WOODSTER</b>	COUNTY/PARISH <b>GRAHAM</b>	STATE <b>KS</b>	CITY	DATE <b>5-24-14</b>	OWNER <b>SAME</b>
TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <b>W W DRIG</b>	RIG NAME/NO.	SHIPPED VIA <b>CT</b>	DELIVERED TO <b>LOCATION</b>	WELL PERMIT NO.	ORDER NO.	WELL LOCATION <b>NE / HALL GAY, KS</b>
WELL TYPE <b>Oil</b>	WELL CATEGORY <b>Development</b>	JOB PURPOSE <b>5 1/2" LONGSTRINGS</b>	INVOICE INSTRUCTIONS				

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	LOC	ACCT	DF	DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
S75		1			MILEAGE # 115	80	ME			6.00	480.00
S78		1			Pump Charge	1	JOB	3777	FT	1500.00	1500.00
221		1			LEADS KEL	2	GA			25.00	50.00
280		1			FLOCHECK-21	500	GA			3.00	1500.00
402		1			CENTRALIZERS	12	EA		5 1/2"	70.00	840.00
403		1			CEMENT BASKET	1	EA			300.00	300.00
404		1			POOR COURSE	1	EA	1790	FT	2900.00	2900.00
406		1			LATCH DOWN Plug - BATTLE	1	EA			275.00	275.00
407		1			INSIDE FLOOR SHOE W/ AUTO FILL	1	EA			375.00	375.00
411		1			REPRODUCTION SCATCHERS	40	EA			50.00	2000.00

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY**, and **LIMITED WARRANTY** provisions.  
 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED **5-24-14** TIME SIGNED **2300**  A.M.  P.M.

SIGNED BY **Richard Bell**

**REMIT PAYMENT TO:**  
**SWIFT SERVICES, INC.**  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

**SURVEY**

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?

WE UNDERSTOOD AND MET YOUR NEEDS?

OUR SERVICE WAS PERFORMED WITHOUT DELAY?

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?

ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL #1	10220.00
#2	6414.12
Subtotal	16,634.12
TAX	944.10
Graham 7.15%	1198.00
<b>TOTAL</b>	<b>17,578.22</b>

SWIFT OPERATOR **Wayne Johnson**

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

APPROVAL

Thank You





PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

CUSTOMER: **Barb Or Co, Inc**  
WELL: **Barb Wooster 2-24**

TICKET No. **25967**  
DATE: **5-24-14**  
PAGE **2** OF **2**

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	QTY		U/M		UNIT PRICE	AMOUNT	
		LOC	ACCT	DF			QTY	U/M	QTY	U/M			
325		1				STANDARD CEMENT	200	SKS			14.50	2900.00	
328		1				60/40 Pozmix (2b gel)	40	SKS			11.50	460.00	
277		1				GZSOWITE	400	lbs			7.5	3000.00	
276		1				FLOCELLE	50	lbs			2.50	125.00	
283		1				SALT	1550	lbs			20	3100.00	
285		1				CFR-1	100	lbs			4.50	450.00	
279		1				BSOWITE GEL	1	SKS		100	lbs	—	N/C
290		1				D-ADD	10	gal			42.00	420.00	
581		1				SEWICE CHARGE					2.00	480.00	
583		1				MILEAGE CHARGE					1.00	969.12	
						TOTAL WEIGHT	24228						
						LOADED MILES	80						
						CUBIC FEET	240						
						TON MILES	969.12						
CONTINUATION TOTAL												6414.12	



JOB LOG

SWIFT Services, Inc.

DATE 5-24-14 PAGE NO. 1

CUSTOMER **BARD ON Co. Inc.** WELL NO. **2-24** LEASE **DAVID WOOSTER** JOB TYPE **5 1/2" LONGSTRING** TICKET NO. **25967**

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0400							ON LOCATION
	0430							START 5 1/2" CASING
								TD - 3778 SET = 3777
								TP - 3783 5 1/2" 14
								SJ - 22'
								CONTRACTS - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 46
								CNT BSRS - 47
								PORT COUNT = 1790 TOPT # 47
	0600							DROP BALL - CIRCULATE REGRABATE
	0703	6	15		✓		400	PUMP KCL SPACER
	0705	6	12		✓		400	PUMP 500 GAL FLOCHECK-21
	0707	6	5		✓		400	PUMP KCL SPACER
	0712		7					PLUG RH (30SKS)
	0720	4 1/2	3		✓		300	MIX CEMENT - 10 SKS 60/40 Pz2 w/ADD. e 13.3 PPG
		4 1/2	44		✓		150	200SKS STANDARD w/ADD. e 15.9 PPG
	0732							WASH OUT PUMP - LINES
	0732							RELEASE LATCH DOWN PLUG
	0735	7	0		✓			DISPLACE PLUG
		6 1/2	90				850	
	0750	6	91.8				1500	PLUG DOWN - PSE UP LATCH TO PLUG
	0755							OK RELEASE PSE - HELD
								WASH TRUCK
	0900							JOB COMPLETE THANK YOU WAYNE DUSTY, ROB

# SWIFT



P. O. Box 466  
Ness City, KS 67560  
Off: 785-798-2300



## Invoice

DATE	INVOICE #
5/29/2014	26652

BILL TO
Baird Oil Company LLC PO Box 428 Logan, KS 67646

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#2-24	David Worce...	Graham		Oil	Development	5-1/2" Port Collar	Josh

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	80	Miles	6.00	480.00
576D-D	Pump Charge - Port Collar	1	Job	1,500.00	1,500.00
290	D-Air	4	Gallon(s)	42.00	168.00T
105	Port Collar Tool Rental With Man	1	Each	350.00	350.00T
330	Swift Multi-Density Standard (MIDCON II)	160	Sacks	18.50	2,960.00T
276	Flocele	50	Lb(s)	2.50	125.00T
581D	Service Charge Cement	200	Sacks	2.00	400.00
583D	Drayage	799	Ton Miles	1.00	799.00
	Subtotal				6,782.00
	Sales Tax Graham County			7.15%	257.61
	<p>R 6/2/14 P 6/2/14 David W 190402 395103 David Worcester 2-24- rental of port collar tool + man when cementing port collar David W 190402 6664.58 David Worcester 2-24- pump charge, cement, + misc expenses used to cement port collar</p>				

<b>We Appreciate Your Business!</b>	<b>Total</b>	\$7,039.61
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CHARGE TO: Bare 01  
 ADDRESS  
 CITY, STATE, ZIP CODE

TICKET 26652  
 PAGE 1 OF 1

1. SERVICE LOCATIONS: Hays Ks WELL/PROJECT NO: 224 LEASE: Davis Worcester COUNTY/PARISH: Graham STATE: Ks DATE: 5-25-14 OWNER: \_\_\_\_\_  
 2. Ness City Ks TICKET TYPE:  SERVICE CONTRACTOR: \_\_\_\_\_ RIG NAME/NO: \_\_\_\_\_ ORDER NO. \_\_\_\_\_  
 3. WELL TYPE:  SALES WELL CATEGORY: Development JOB PURPOSE: 5th Port Collar DELIVERED TO: Coleman WELL PERMIT NO. \_\_\_\_\_  
 4. REFERRAL LOCATION: \_\_\_\_\_ INVOICE INSTRUCTIONS: \_\_\_\_\_

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE \$112	80	m			6.00	480.00
576.0		1			Pump Charge Port Collar	1	ea			1500.00	1500.00
290		1			O-Air	4	gal			42.00	168.00
105		1			Port collar fuel rental w/man	1	ea			350.00	350.00
330		2			Swft Mulf Density	160	lbs			18.00	2960.00
276		2			Flocele	50	lbs			2.50	125.00
581		2			Service Charge Lemanr	200	SKS			2.00	400.00
583		2			Drayage	799	hrs			1.00	799.00
<b>LEGAL TERMS:</b> Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, <b>PAYMENT, RELEASE, INDEMNITY,</b> and <b>LIMITED WARRANTY</b> provisions. MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS.											

REMIT PAYMENT TO:  
**SWIFT SERVICES, INC.**  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

DATE SIGNED: 5-29-14 TIME SIGNED: 0130  A.M.  P.M.

SURVEY:  OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?  WE UNDERSTOOD AND MET YOUR NEEDS?  OUR SERVICE WAS PERFORMED WITHOUT DELAY?  WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?  ARE YOU SATISFIED WITH OUR SERVICE?  YES  NO  CUSTOMER DID NOT WISH TO RESPOND

Graham TAX 7.15%  
 TOTAL 7039.00

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.  
 SWIFT OPERATOR: Jim Pelt APPROVAL: \_\_\_\_\_  
 Thank You



JOB LOG

SWIFT Services, Inc.

DATE 5-29-14 PAGE NO.

CUSTOMER Barta WELL NO. 2-24 LEASE Dana Worcester JOB TYPE 5 1/2 Port Collar TICKET NO. 28852

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0930							on location
								PC @ 1790'
	1015							Start Tool
	1115							locate PC
	1115				✓		1000	Pressure test Hold
		2/			✓		300	Open PC Injection Rate
		4	80	✓		400	400	Start mud Circulation 26bbls
		4	5	✓		400	400	Start water spacer
		4		✓		500	500	Start SMP cement
			75	✓				Circulate cement
			5	✓				Bring up weight
								Start Displacement
	1215							close PC
							1000	Pressure test Hold
								Run 4 joints
	1220				✓			Reverse out Clean
			30					
	1240							Pull Tool
								wash up made up
								mixed 160 stks
								circulated 20 stks up pit
	1330							Sub Complete
								Thank You
								Josh, Brian, John



## DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

PO Box 428  
Logan, KS 67646

ATTN: Rich Bell

**David Worchester 2-24**

**24- 7s-22w Graham,KS**

Start Date: 2014.05.22 @ 15:26:06

End Date: 2014.05.22 @ 20:56:36

Job Ticket #: 59233                      DST #: 1

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

Printed: 2014.05.28 @ 08:28:11



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

ATTN: Rich Bell

Job Ticket: 59233

**DST#: 1**

Test Start: 2014.05.22 @ 15:26:06

## GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:35:06

Time Test Ended: 20:56:36

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan L

Unit No: 48

**Interval: 3440.00 ft (KB) To 3460.00 ft (KB) (TVD)**

Reference Elevations: 2163.00 ft (KB)

Total Depth: 3460.00 ft (KB) (TVD)

2156.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8372**

**Inside**

Press@RunDepth: 151.68 psig @ 3457.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.22

End Date:

2014.05.22

Last Calib.:

2014.05.22

Start Time: 15:26:07

End Time:

20:56:36

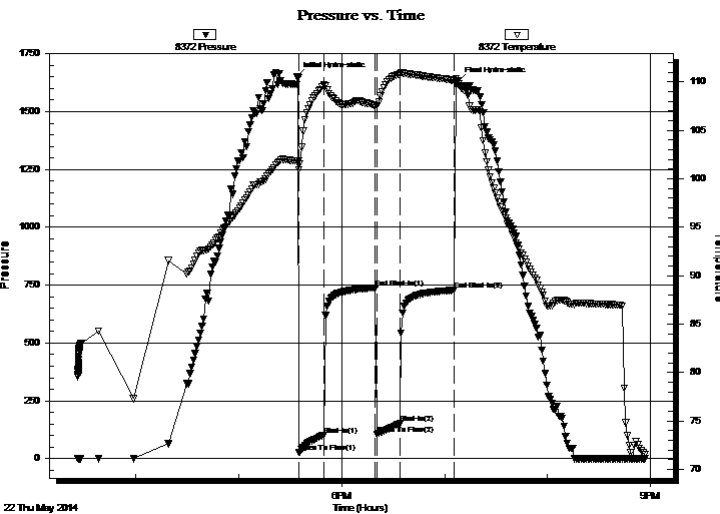
Time On Btm:

2014.05.22 @ 17:34:06

Time Off Btm:

2014.05.22 @ 19:07:36

**TEST COMMENT:** 15- IF- BOB 10 mins  
30- IS- No blow  
15- FF- BOB 12 mins  
30- FS- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1651.96	101.84	Initial Hydro-static
1	28.94	100.91	Open To Flow (1)
16	102.93	109.75	Shut-In(1)
46	738.20	107.55	End Shut-In(1)
47	106.18	107.55	Open To Flow (2)
60	151.68	110.82	Shut-In(2)
92	728.41	110.17	End Shut-In(2)
94	1631.92	110.18	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
300.00	MW w / oil spots, 30%M 70%W	3.04

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Baird Oil Company LLC  
 PO Box 428  
 Logan, KS 67646  
 ATTN: Rich Bell

**24- 7s-22w Graham,KS**

**David Worcester 2-24**

Job Ticket: 59233 **DST#: 1**

Test Start: 2014.05.22 @ 15:26:06

**GENERAL INFORMATION:**

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:35:06

Time Test Ended: 20:56:36

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan L

Unit No: 48

Interval: **3440.00 ft (KB) To 3460.00 ft (KB) (TVD)**

Reference Elevations: 2163.00 ft (KB)

Total Depth: 3460.00 ft (KB) (TVD)

2156.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8321 Outside**

Press@RunDepth: psig @ 3457.00 ft (KB)

Start Date: 2014.05.22

End Date:

2014.05.22

Start Time: 15:26:21

End Time:

20:56:50

Capacity: 8000.00 psig

Last Calib.: 2014.05.22

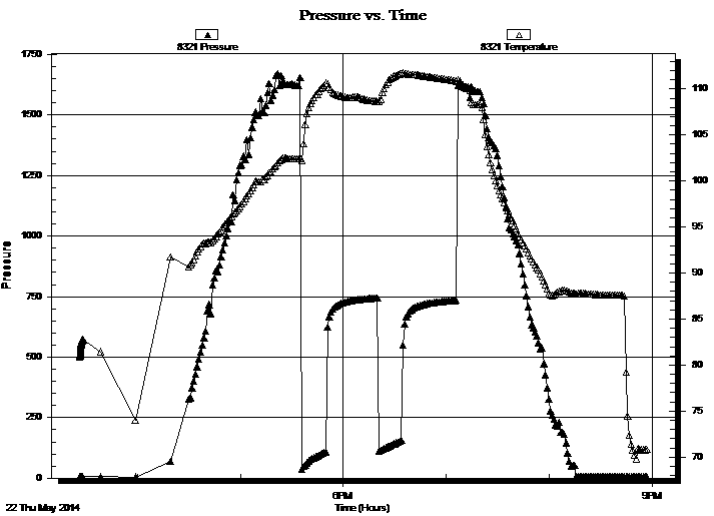
Time On Btm:

Time Off Btm:

**TEST COMMENT:** 15- IF- BOB 10 mins  
 30- IS- No blow  
 15- FF- BOB 12 mins  
 30- FS- No blow

**PRESSURE SUMMARY**

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



**Recovery**

Length (ft)	Description	Volume (bbl)
300.00	MW w / oil spots, 30%M 70%W	3.04

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

Job Ticket: 59233

**DST#: 1**

ATTN: Rich Bell

Test Start: 2014.05.22 @ 15:26:06

## Tool Information

Drill Pipe:	Length: 3329.00 ft	Diameter: 3.75 inches	Volume: 45.48 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - 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: 70000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3440.00 ft			Final 54000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3421.00	
Shut In Tool	5.00			3426.00	
Hydraulic tool	5.00			3431.00	
Packer	5.00			3436.00	20.00 Bottom Of Top Packer
Packer	4.00			3440.00	
Stubb	1.00			3441.00	
Perforations	16.00			3457.00	
Recorder	0.00	8372	Inside	3457.00	
Recorder	0.00	8321	Outside	3457.00	
Bullnose	3.00			3460.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>40.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

Job Ticket: 59233

**DST#: 1**

ATTN: Rich Bell

Test Start: 2014.05.22 @ 15:26:06

## 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:

7000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	MW w / oil spots, 30%M 70%W	3.040

Total Length: 300.00 ft      Total Volume: 3.040 bbl

Num Fluid Samples: 0

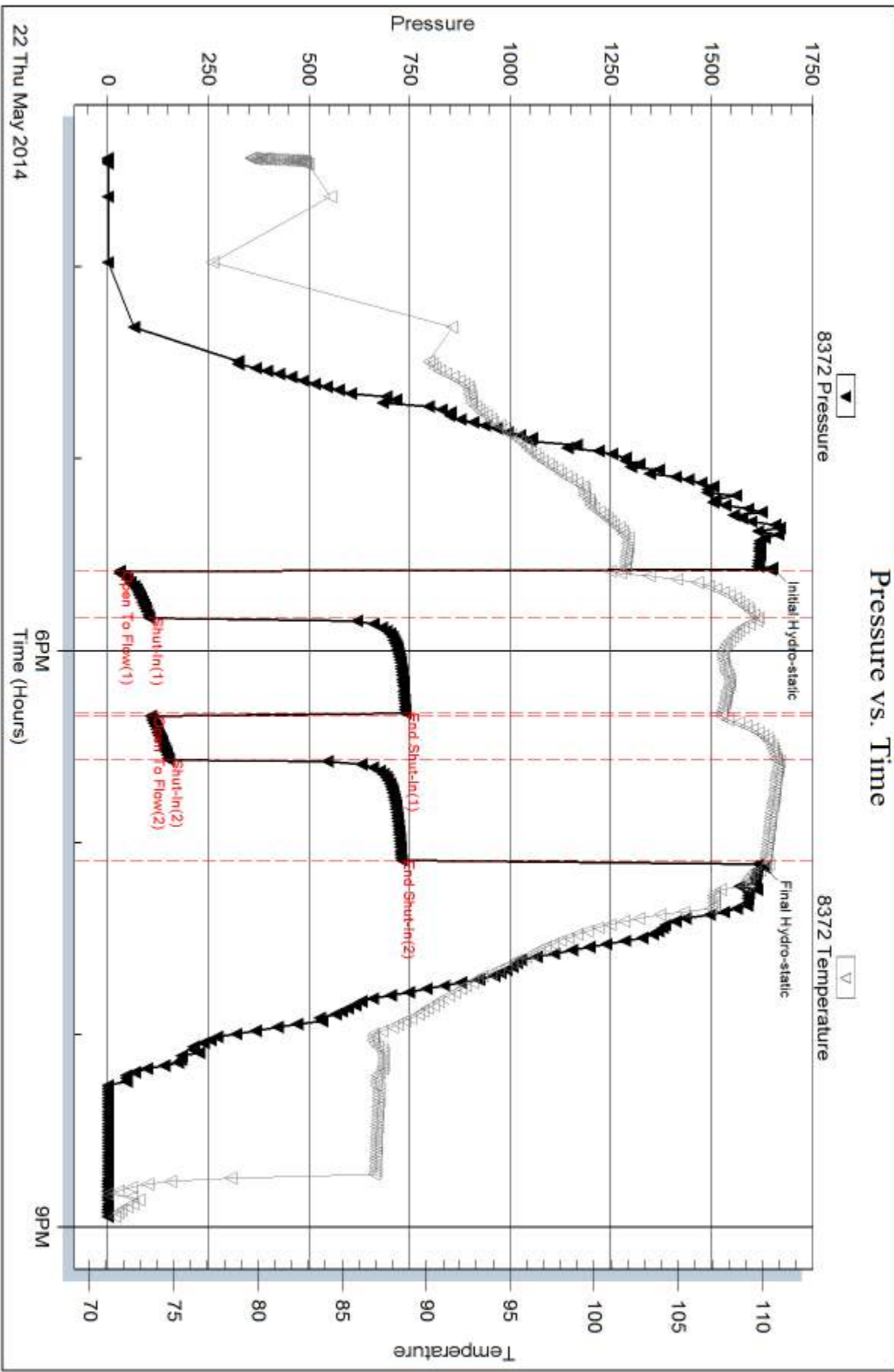
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

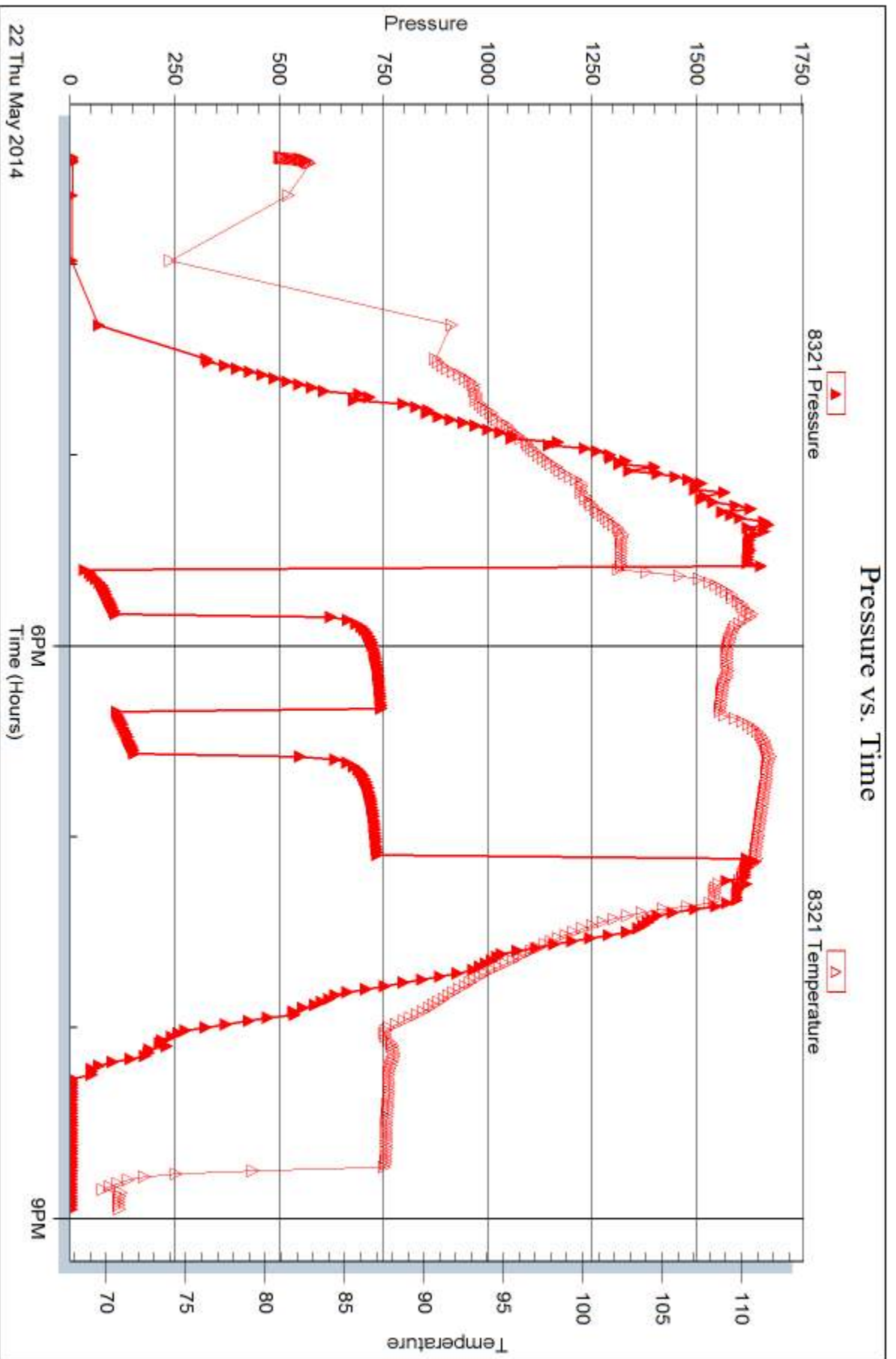


Serial #: 8321

Outside Baird Oil Company LLC

David Worcester 2-24

DST Test Number: 1



22 Thu May 2014

Triobite Testing, Inc

Ref. No: 59233

Printed: 2014.05.28 @ 08:28:13





## DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

PO Box 428  
Logan, KS 67646

ATTN: Rich Bell

**David Worcester 2-24**

**24- 7s-22w Graham,KS**

Start Date: 2014.05.23 @ 02:36:44

End Date: 2014.05.23 @ 10:11:14

Job Ticket #: 59234                      DST #: 2

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

Printed: 2014.05.28 @ 08:27:18



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

ATTN: Rich Bell

Job Ticket: 59234

**DST#: 2**

Test Start: 2014.05.23 @ 02:36:44

## GENERAL INFORMATION:

Formation: **LKC "F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:19:14

Time Test Ended: 10:11:14

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan L

Unit No: 48

**Interval: 3459.00 ft (KB) To 3479.00 ft (KB) (TVD)**

Reference Elevations: 2163.00 ft (KB)

Total Depth: 3479.00 ft (KB) (TVD)

2156.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

## Serial #: 8372

Inside

Press@RunDepth: 65.59 psig @ 3476.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.23

End Date:

2014.05.23

Last Calib.:

2014.05.23

Start Time:

02:36:45

End Time:

10:11:14

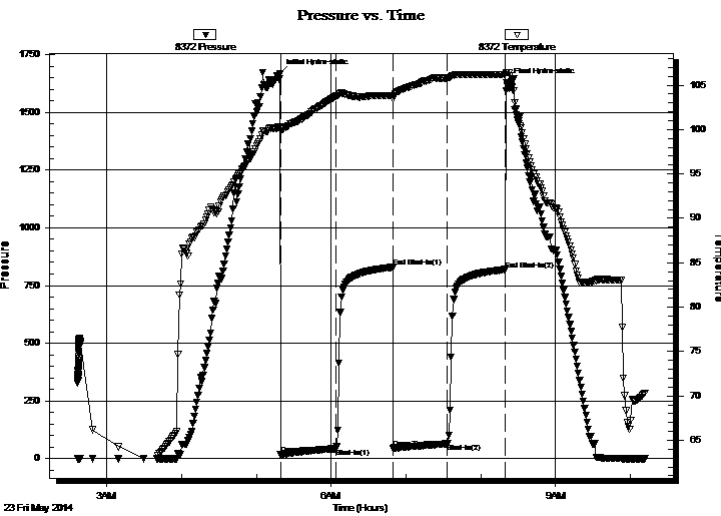
Time On Btm:

2014.05.23 @ 05:18:44

Time Off Btm:

2014.05.23 @ 08:20:44

TEST COMMENT: 45- IF- Built very slow ly to 3 1/2"  
45- IS- No blow  
45- FF- Built very slow ly to 1 1/2"  
45- FS- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1666.53	100.29	Initial Hydro-static
1	17.30	100.05	Open To Flow (1)
45	44.41	103.76	Shut-In(1)
91	828.97	103.84	End Shut-In(1)
91	46.24	103.42	Open To Flow (2)
135	65.59	105.79	Shut-In(2)
181	819.02	106.18	End Shut-In(2)
182	1630.37	106.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
100.00	OCM, 15%O 85%M	0.49

\* Recovery from multiple tests

## Gas Rates

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



# DRILL STEM TEST REPORT

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

ATTN: Rich Bell

Job Ticket: 59234 **DST#: 2**

Test Start: 2014.05.23 @ 02:36:44

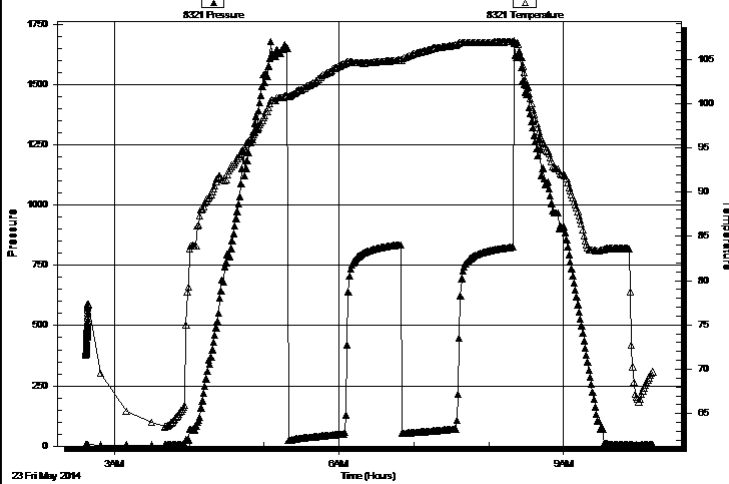
## GENERAL INFORMATION:

Formation: **LKC "F"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 05:19:14  
Time Test Ended: 10:11:14  
**Interval: 3459.00 ft (KB) To 3479.00 ft (KB) (TVD)**  
Total Depth: 3479.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2163.00 ft (KB)  
2156.00 ft (CF)  
KB to GR/CF: 7.00 ft

**Serial #: 8321 Outside**  
Press@RunDepth: psig @ 3476.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.05.23 End Date: 2014.05.23 Last Calib.: 2014.05.23  
Start Time: 02:36:50 End Time: 10:11:19 Time On Btm:  
Time Off Btm:

TEST COMMENT: 45- IF- Built very slow ly to 3 1/2"  
45- IS- No blow  
45- FF- Built very slow ly to 1 1/2"  
45- FS- No blow

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
100.00	OCM, 15%O 85%M	0.49

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

Job Ticket: 59234

**DST#: 2**

ATTN: Rich Bell

Test Start: 2014.05.23 @ 02:36:44

## Tool Information

Drill Pipe:	Length: 3329.00 ft	Diameter: 3.75 inches	Volume: 45.48 bbl	Tool Weight: 2000.00 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 46.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3459.00 ft			Final 55000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3440.00	
Shut In Tool	5.00			3445.00	
Hydraulic tool	5.00			3450.00	
Packer	5.00			3455.00	20.00 Bottom Of Top Packer
Packer	4.00			3459.00	
Stubb	1.00			3460.00	
Perforations	16.00			3476.00	
Recorder	0.00	8372	Inside	3476.00	
Recorder	0.00	8321	Outside	3476.00	
Bullnose	3.00			3479.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>40.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

Job Ticket: 59234

**DST#: 2**

ATTN: Rich Bell

Test Start: 2014.05.23 @ 02:36:44

### 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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	OCM, 15%O 85%M	0.492

Total Length: 100.00 ft      Total Volume: 0.492 bbl

Num Fluid Samples: 0

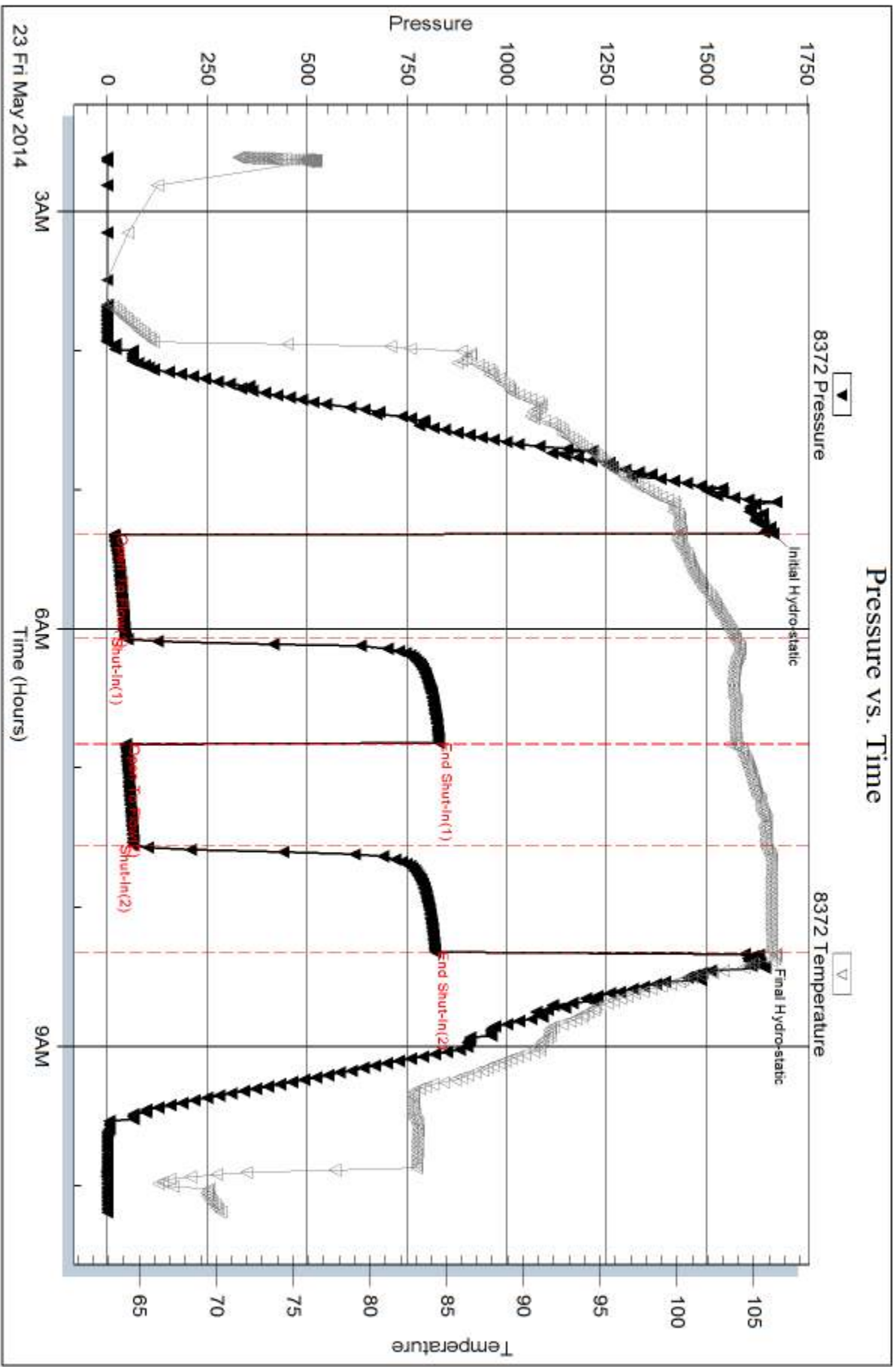
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

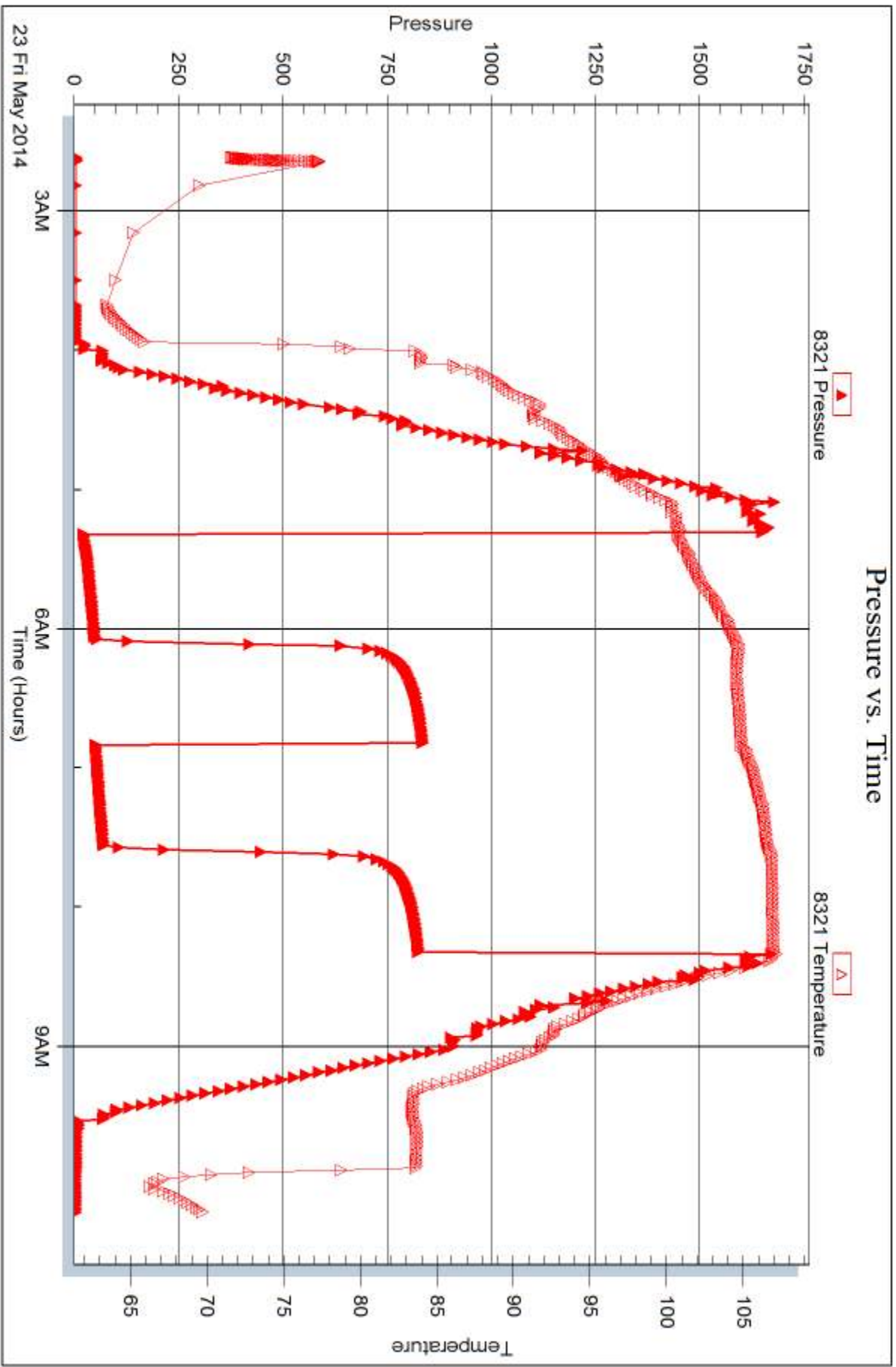


Serial #: 8321

Outside Baird Oil Company LLC

David Worcester 2-24

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 59234

Printed: 2014.05.28 @ 08:27:19



## DRILL STEM TEST REPORT

Prepared For: **Baird Oil Company LLC**

PO Box 428  
Logan, KS 67646

ATTN: Rich Bell

**David Worcester 2-24**

**24- 7s-22w Graham,KS**

Start Date: 2014.05.24 @ 10:34:30

End Date: 2014.05.24 @ 17:01:30

Job Ticket #: 59235                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.28 @ 08:26:41





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

ATTN: Rich Bell

Job Ticket: 59235

**DST#: 3**

Test Start: 2014.05.24 @ 10:34:30

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:40:30

Time Test Ended: 17:01:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan L / Tate Lan

Unit No: 48

**Interval: 3666.00 ft (KB) To 3727.00 ft (KB) (TVD)**

Reference Elevations: 2163.00 ft (KB)

Total Depth: 3727.00 ft (KB) (TVD)

2156.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8372 Inside**

Press@RunDepth: 201.33 psig @ 3690.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.24

End Date:

2014.05.24

Last Calib.: 2014.05.24

Start Time: 10:34:31

End Time:

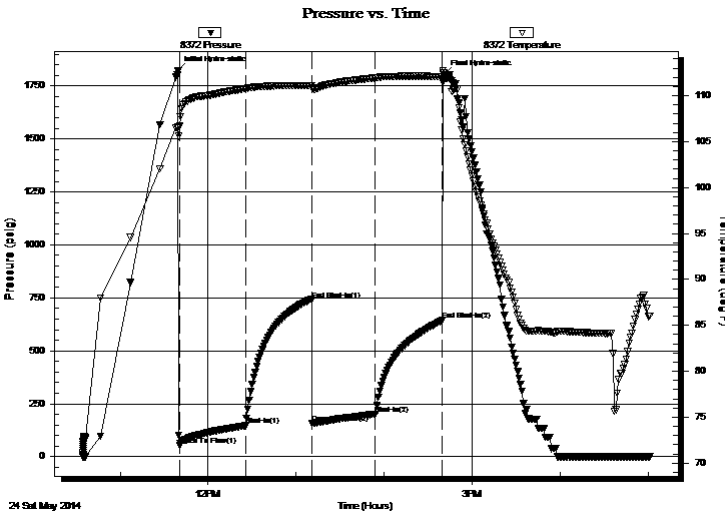
17:01:30

Time On Btm: 2014.05.24 @ 11:39:30

Time Off Btm: 2014.05.24 @ 14:40:30

**TEST COMMENT:** Fair blow built to 5 1/2" died back to 1 1/2"  
Dead no blow back  
Weak surface blow built to 3" died back to 1/2"  
Dead no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1823.46	106.56	Initial Hydro-static
1	54.37	106.67	Open To Flow (1)
46	146.69	110.77	Shut-In(1)
91	739.94	111.07	End Shut-In(1)
92	159.06	110.84	Open To Flow (2)
135	201.33	111.93	Shut-In(2)
180	643.29	112.12	End Shut-In(2)
181	1801.31	112.54	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 30%O 70%M	0.30
412.00	Oil 100%O	5.09

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

Job Ticket: 59235 **DST#: 3**

ATTN: Rich Bell

Test Start: 2014.05.24 @ 10:34:30

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:40:30

Time Test Ended: 17:01:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan L / Tate Lan

Unit No: 48

**Interval: 3666.00 ft (KB) To 3727.00 ft (KB) (TVD)**

Reference Elevations: 2163.00 ft (KB)

Total Depth: 3727.00 ft (KB) (TVD)

2156.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

**Serial #: 8321 Outside**

Press@RunDepth: psig @ 3690.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.24

End Date:

2014.05.24

Last Calib.:

2014.05.24

Start Time: 10:34:16

End Time:

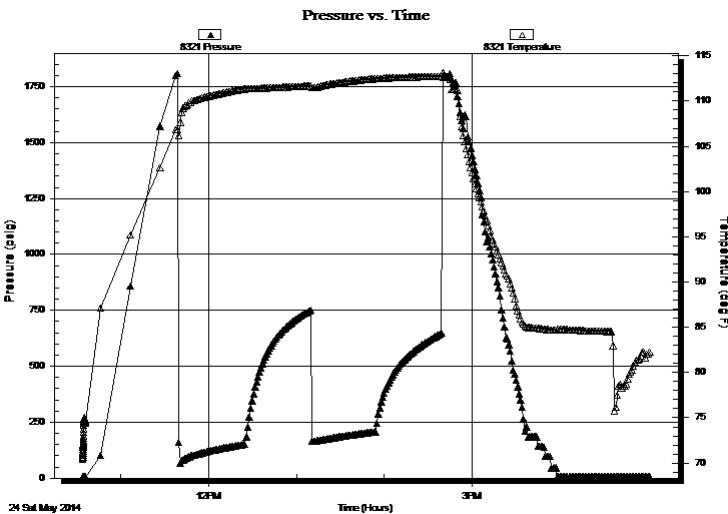
17:01:15

Time On Btm:

Time Off Btm:

**TEST COMMENT:** Fair blow built to 5 1/2" died back to 1 1/2"  
Dead no blow back  
Weak surface blow built to 3" died back to 1/2"  
Dead no blow back

## PRESSURE SUMMARY



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

## Recovery

## Gas Rates

Length (ft)	Description	Volume (bbl)
60.00	OCM 30%O 70%M	0.30
412.00	Oil 100%O	5.09

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

Job Ticket: 59235

**DST#: 3**

ATTN: Rich Bell

Test Start: 2014.05.24 @ 10:34:30

## Tool Information

Drill Pipe:	Length: 3548.00 ft	Diameter: 3.75 inches	Volume: 48.47 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - 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:	70000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3666.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	61.00 ft				
Tool Length:	81.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3647.00	
Shut In Tool	5.00			3652.00	
Hydraulic tool	5.00			3657.00	
Packer	5.00			3662.00	20.00 Bottom Of Top Packer
Packer	4.00			3666.00	
Stubb	1.00			3667.00	
Perforations	23.00			3690.00	
Recorder	0.00	8372	Inside	3690.00	
Recorder	0.00	8321	Outside	3690.00	
Change Over Sub	1.00			3691.00	
Drill Pipe	32.00			3723.00	
Change Over Sub	1.00			3724.00	
Bullnose	3.00			3727.00	61.00 Bottom Packers & Anchor

**Total Tool Length: 81.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Baird Oil Company LLC

**24- 7s-22w Graham,KS**

PO Box 428  
Logan, KS 67646

**David Worcester 2-24**

Job Ticket: 59235

**DST#: 3**

ATTN: Rich Bell

Test Start: 2014.05.24 @ 10:34:30

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCM 30%O 70%M	0.295
412.00	Oil 100%O	5.095

Total Length: 472.00 ft

Total Volume: 5.390 bbl

Num Fluid Samples: 0

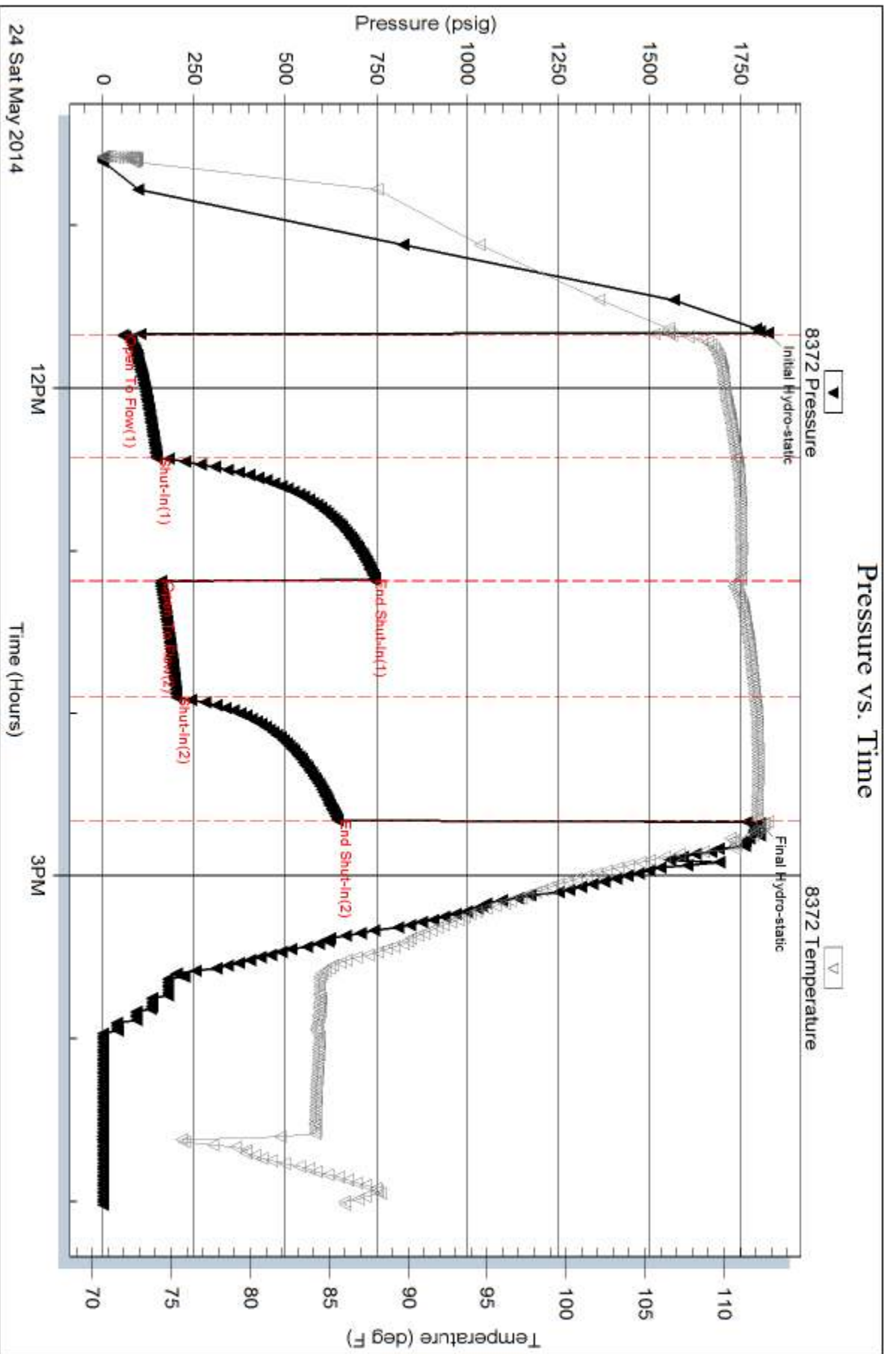
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

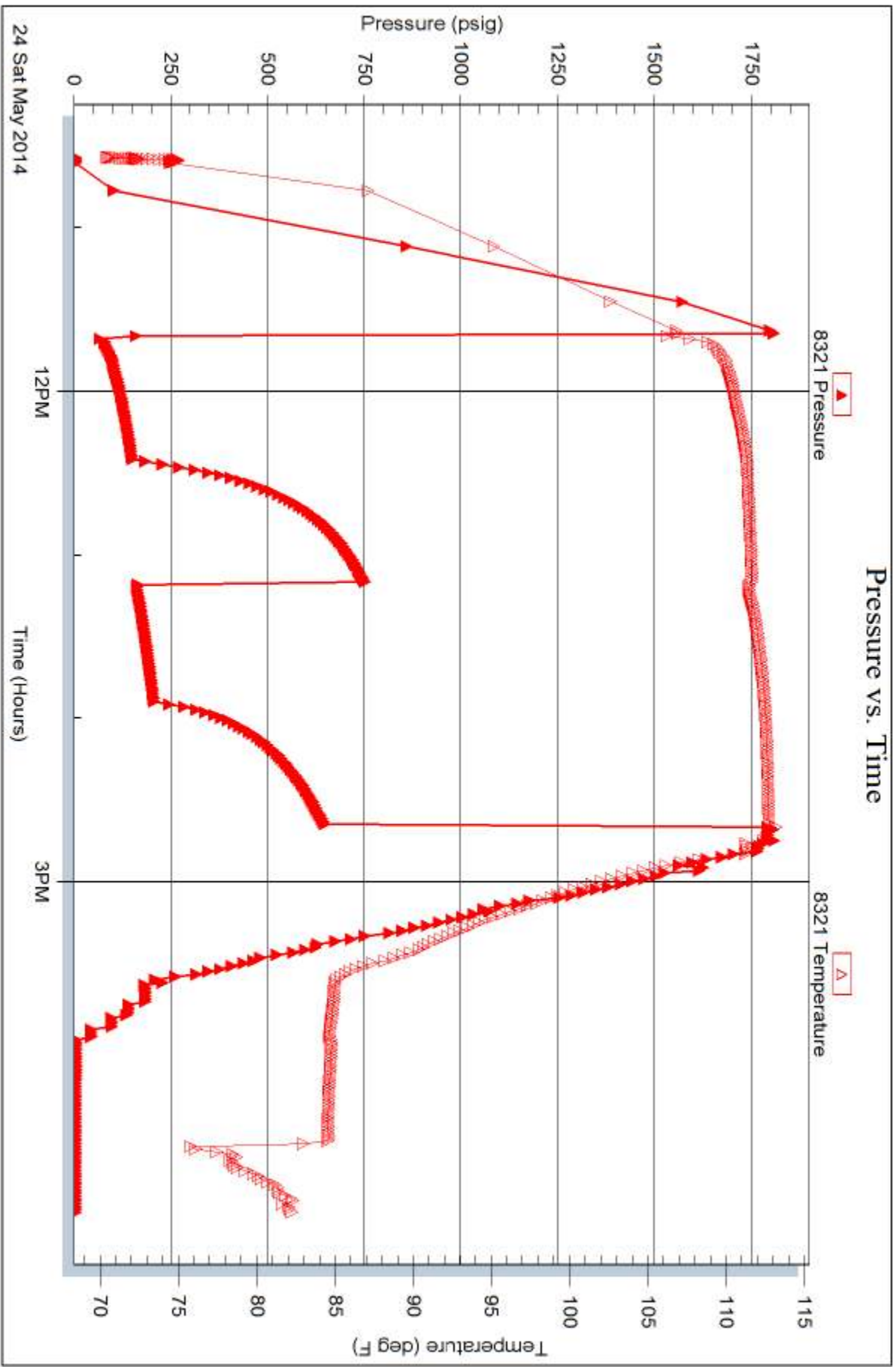


Serial #: 8321

Outside Baird Oil Company LLC

David Worcester 2-24

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59233

Well Name & No. David Worcester #2-24 Test No. 1 Date 5/22/14  
 Company Barad Oil Company LLC Elevation 2163 KB 2156 GL  
 Address 113 W. Main PO Box 428 Logan, KS 67464  
 Co. Rep / Geo. Rich Bell Rig WW #12  
 Location: Sec. 24 Twp. 7S Rge. 22W Co. Crawham State KS

Interval Tested 3440 - 3460 Zone Tested LKC "C"  
 Anchor Length 20' Drill Pipe Run 3329 Mud Wt. 8.9  
 Top Packer Depth 3435 Drill Collars Run 121 Vis 57  
 Bottom Packer Depth 3440 Wt. Pipe Run — WL 6.8  
 Total Depth 3460 Chlorides 1,300 ppm System LCM 1/2#

Blow Description IF - BOB 10 mins  
ISI - No blow  
FF - BOB 12 mins  
FSTI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>MW w/ oil spots</u>			<u>70</u>	<u>30</u>
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

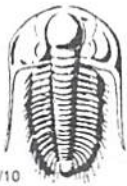
Rec Total 300' BHT 110° Gravity — API RW .9 @ 72° F Chlorides 7,200 ppm  
 (A) Initial Hydrostatic 1652  Test 1150 T-On Location 1524  
 (B) First Initial Flow 29  Jars — T-Started 1526  
 (C) First Final Flow 103  Safety Joint — T-Open 1735  
 (D) Initial Shut-In 738  Circ Sub — T-Pulled 1905  
 (E) Second Initial Flow 106  Hourly Standby — T-Out 2057  
 (F) Second Final Flow 152  Mileage 134 RT 207.70 Comments —  
 (G) Final Shut-In 728  Sampler —  
 (H) Final Hydrostatic 1632  Straddle —  
 Shale Packer —  Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies —

Initial Open 15  
 Initial Shut-In 30  
 Final Flow 15  
 Final Shut-In 30  
 Sub Total 1357.70  
 MP/DST Disc't —

Approved By — Our Representative Brannan L

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59234

Well Name & No. David Worcester #2-24 Test No. 2 Date 5/23/14  
 Company Burd Oil Company LLC Elevation 2163 KB 2156 GL  
 Address 113 W. Main PO Box 428 Logan, KS 67646  
 Co. Rep / Geo. Rich Bell Rig WW #12  
 Location: Sec. 24 Twp. 7S Rge. 22W Co. Graham State KS

Interval Tested 3459-3479 Zone Tested LKC "F"  
 Anchor Length 20' Drill Pipe Run 3329 Mud Wt. 8.9  
 Top Packer Depth 3454 Drill Collars Run 122 Vis 57  
 Bottom Packer Depth 3459 Wt. Pipe Run          WL 6.8  
 Total Depth 3479 Chlorides 1300 ppm System LCM 1/2"  
 Blow Description IF - Built very slowly to 3 1/2"  
ISI - No flow  
FF - Built very slowly to 1 1/2"  
FSI - No blow

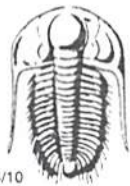
Rec	Feet of	%gas	%oil	%water	%mud
<u>100</u>	<u>OCM</u>	<u>15</u>		<u>85</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 100' BHT 106° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1667  Test 1150 T-On Location 0234  
 (B) First Initial Flow 17  Jars \_\_\_\_\_ T-Started 0237  
 (C) First Final Flow 44  Safety Joint \_\_\_\_\_ T-Open 0519  
 (D) Initial Shut-In 829  Circ Sub \_\_\_\_\_ T-Pulled 0819  
 (E) Second Initial Flow 46  Hourly Standby \_\_\_\_\_ T-Out 1011  
 (F) Second Final Flow 66  Mileage 134 RT 207.70 Comments \_\_\_\_\_  
 (G) Final Shut-In 819  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1630  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1357.70  
 Final Flow 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1357.70

Approved By \_\_\_\_\_ Our Representative Brannen L  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59235

Well Name & No. David Worcester #2-24 Test No. 3 Date 5/24/14  
 Company Barnd Oil Company LLC Elevation 2163 KB 2156 GL  
 Address 113 W. Main PO Box 428 Logan, KS 67646  
 Co. Rep / Geo. Rich Bell Rig WW #12  
 Location: Sec. 24 Twp. 7S Rge. 22W Co. Graham State KS

Interval Tested 3666-3727 Zone Tested Airbuckle  
 Anchor Length 61' Drill Pipe Run 3548 Mud Wt. 8.9  
 Top Packer Depth 3661 Drill Collars Run 121 Vis 50  
 Bottom Packer Depth 3666 Wt. Pipe Run \_\_\_\_\_ WL 6.8  
 Total Depth 3727 Chlorides 2000 ppm System LCM 2#

Blow Description Fair blow built to 5 1/2 died back to 1 1/2 in  
Dead no blow back  
Weak surface blow built to 3 in died back to 1/2 in  
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>60</u>	Feet of <u>OCM</u>	%gas	<u>30</u> %oil	%water	<u>70</u> %mud
Rec <u>412</u>	Feet of <u>Oil</u>	%gas	<u>10</u> %oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 472 BHT 112 Gravity 25 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1823  Test 1150 T-On Location 0930  
 (B) First Initial Flow 54  Jars \_\_\_\_\_ T-Started 1034  
 (C) First Final Flow 147  Safety Joint \_\_\_\_\_ T-Open 1140  
 (D) Initial Shut-In 740  Circ Sub \_\_\_\_\_ T-Pulled 1440  
 (E) Second Initial Flow 159  Hourly Standby \_\_\_\_\_ T-Out 1701  
 (F) Second Final Flow 201  Mileage 134 RT 207.70 Comments Loaded after  
 (G) Final Shut-In Cell 3  Sampler \_\_\_\_\_ Test  
 (H) Final Hydrostatic 1801  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1357.70  
 Final Flow 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1357.70

Approved By \_\_\_\_\_ Our Representative Brannon L. [Signature]

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API# 15-065-24042-00-00

GEOLOGICAL REPORT  
DRILLING TIME AND SAMPLE LOG

COMPANY Baird Oil Company, LLC.  
 LEASE David Worcester # 2-24  
 FIELD Wildcat  
 LOCATION 900' ENL + 2195' FEL  
 SEC 24 TWP 7s RGE 22W  
 COUNTY Graham STATE Kansas

ELEVATION  
 KB 2163'  
 DF 2161'  
 GL 2155'  
 Depths Measured From  
 Log KB Drilling KB

CONTRACTOR WW Drilling Rig #12  
 SPUD 5-19-14 COMP 5-25-14  
 SAMPLES SAVED FROM 3100' TO R.T.D.

CASING  
 Surface 8 5/8" @ 221'  
 Production 5 1/2" @ 3772'

ELECTRIC LOGS  
Nabors

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE	E. LOG	DATUM	A	B	C	D
				•			
Anhydrite	1783	1781	+ 382	+ 392			
Base Anhydrite	1816	1812	+ 351	+ 362			
Topeka	3157	3154	- 991	- 985			
Heebner	3367	3363	- 1200	- 1195			
Toronto	3388	3385	- 1222	- 1216			
Lansing	3402	3399	- 1236	- 1231			
Base Kansas City	3591	3588	- 1425	- 1419			
Arbuckle	3684	3681	- 1518	- 1522			
Total Depth	3729	3727	- 1564	- 1535			
T.D. after logging	3780						

REFERENCE WELLS

A Baird Oil Co.; David Worcester #1-24, 1880' ENL + 1360' FEL Sec. 24-7s-22W  
 B  
 C  
 D Part Collar @ 1790'



REMARKS

This well ran 5 feet lower on the Lansing top and 4 feet higher on the Arbuckle top than the reference well. Encouraging D.S.T. results warranted the cementing of production casing to further test the well. The following zones should be tested; 3695-3706, 3681-3686 and 3472-3478

Richard B. Ball  
5-25-14

7502

LEGEND

- Anhydrite  

- Salt  

- Sandstone  

- Shale  

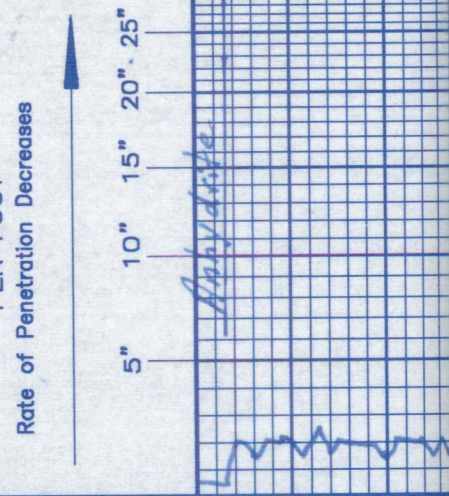
- Carb sh  

- Limestone  

- Ool. Lime  

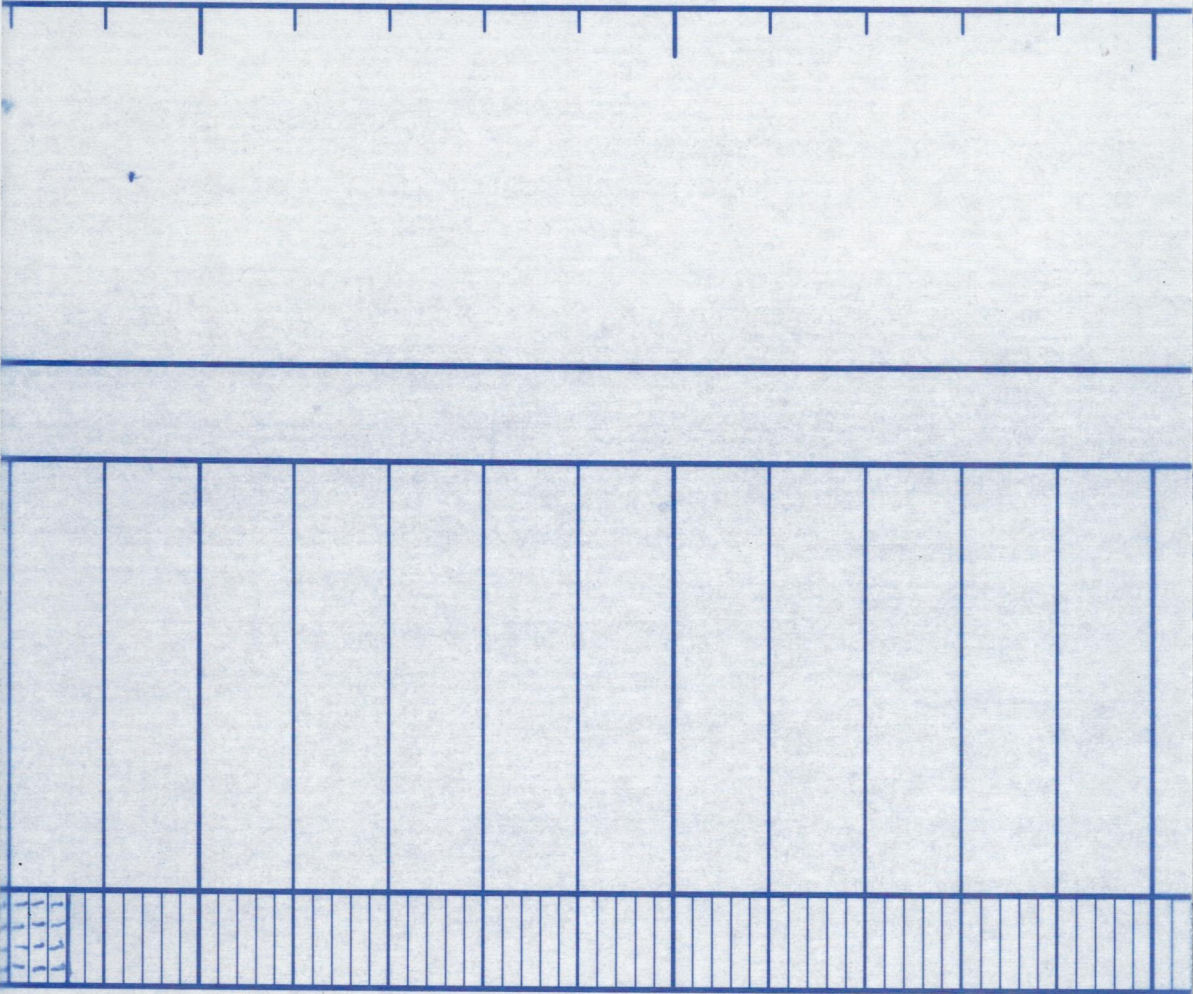
- Chert  

- Dolomite  


DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	REMARKS
<p>DRILLING TIME IN MINUTES PER FOOT</p> <p>Rate of Penetration Decreases</p> 	<p>1780</p> <p>1800</p>		
		OIL SHOWS	

LOG 7710



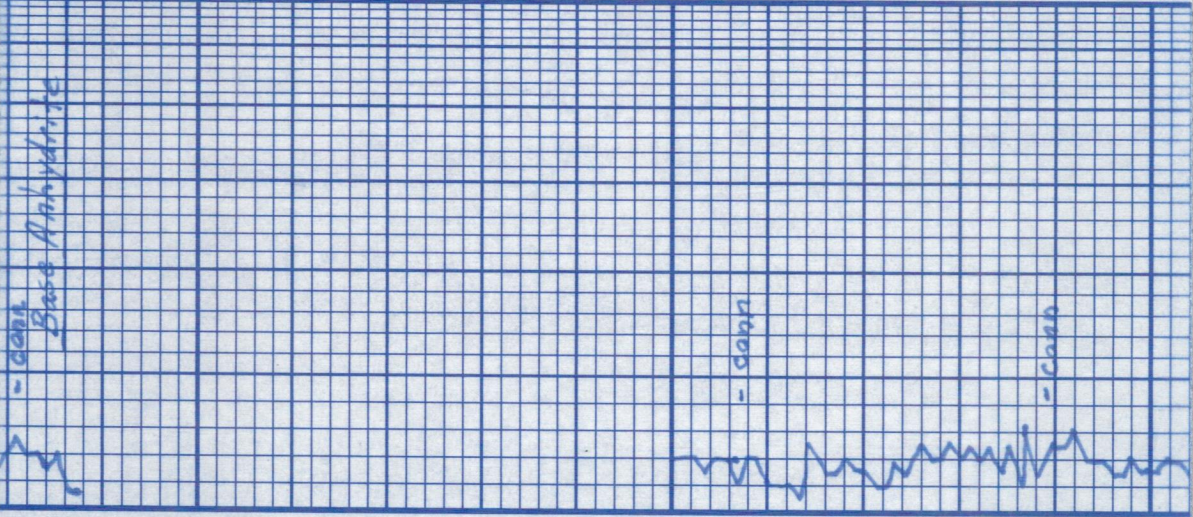


1820

3000

20

40

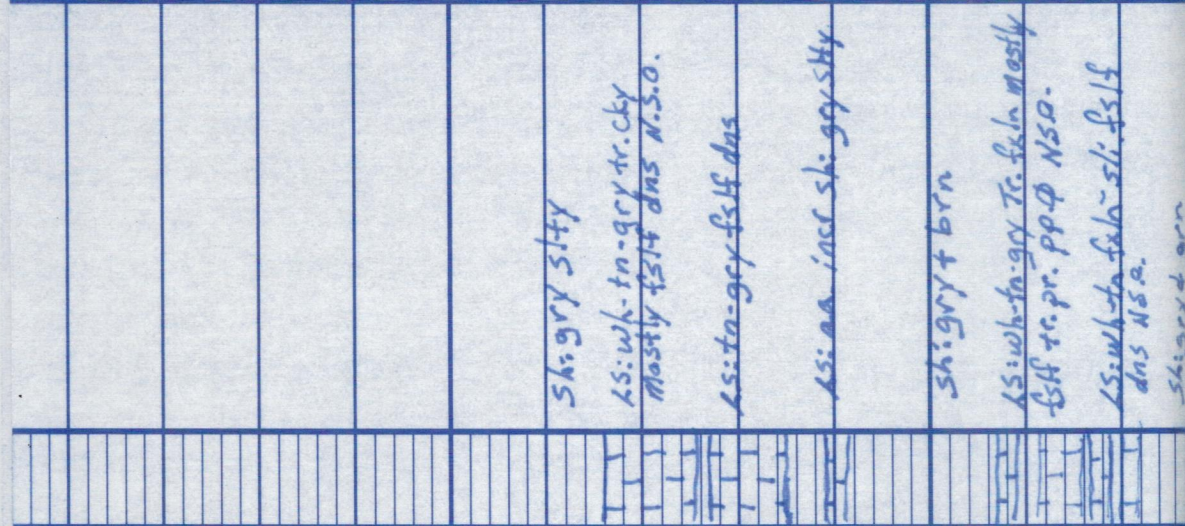
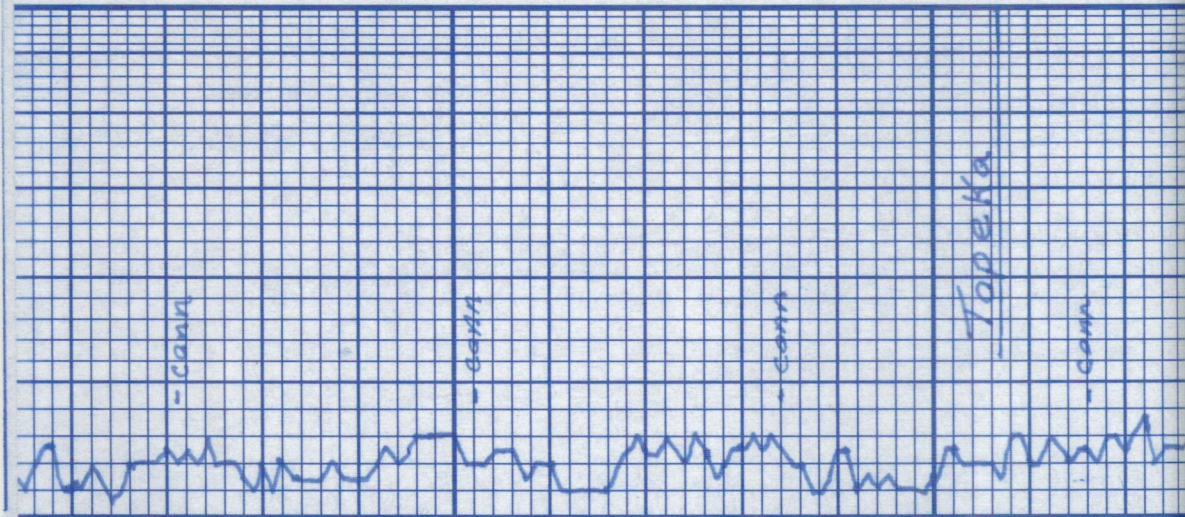


- can.  
Base Anhydrite

- can.

- can.





Samples are lagged  
good Samples

60

80

3100

20

40

60

-cann

-cann

-cann

TOPEKA

-cann

sh: gry sity

ls: wk. tn-gry tr.cky  
Mostly fslf dms N.S.O.

ls: tn-gry fslf dms

ls: aa. iacc sh: gry sity

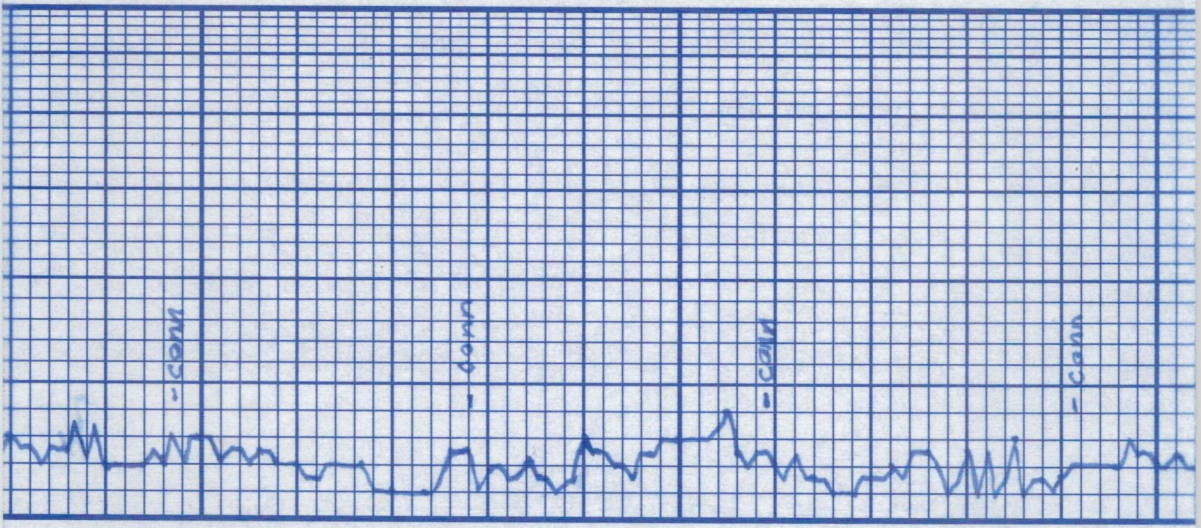
sh: gry + brn

ls: wh. tn-gry Tr. fslf in mostly  
sh tr. pr. ppφ NSA.

ls: wh. tn fslf sh: fslf  
dms NSA.

sh: gry + brn

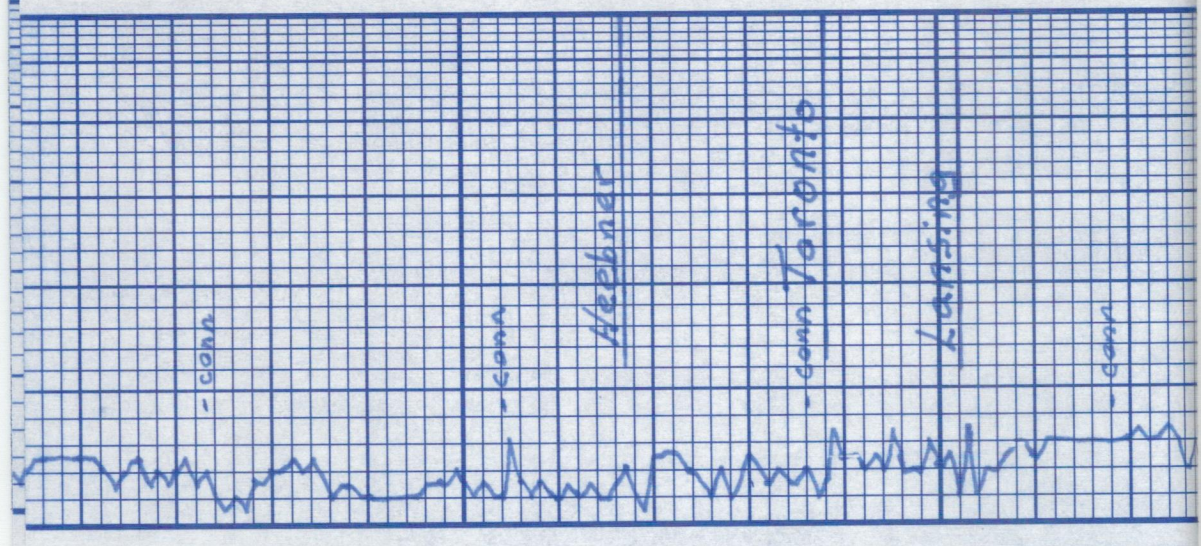




80  
3200  
20  
40  
60  
80  
3300

LS: tn-gry fs1f das	
LS: whbn sli.cky-fs1f das	
LS: ta fs1f das sh: brn	
LS: wh-tn chy-feln-sti-fs1f pp φ N.S.O.	
LS: caa Δ x wh-tn-lt-gry	
LS: gry fs1f das	
LS: wh-tn chy-fs1f pp φ - in part φ N.S.O. Δ wh-tn	
LS: wh-tn feln das N.S.O.	
LS: tn-lt-gry mtld fs1f das Sh: blk Carb	
Sh: gry + brn Tr. 55 gry V. fn gn. Consol. in part φ N.S.O.	
sh: brn Sity	
LS: wh-tn feln-sti-fs1f pp φ N.S.O. in cr. chy	
sh: gry + brn	





LS: tn - lt. gry dn	LS: tn - gry fs/f dn	LS: tn fs/f ppφ - in part φ N.S.O. Δ tn	LS: wh. tn fkn - sli. fs/f sli. oil w/ abundant foss incl ppφ - in part φ N.S.O. Δ wh. tn	LS: wh. th sli.cky - fkn dn Δ tn. lt. gry	LS: wh. tn fs/f Tr. Vgy φ N.S.O. Δ wh. tn sh. brn & gry	Sh: blk Carb LS: tn - gry mtd fs/f dn	Sh: brn, gry, grn	LS: wh. tn fkn - sli. fs/f dn N.S.O. Tr Δ wh fs/f incr. Δ wh. tn	LS: wh. tn fkn sli. oil gd ppφ N.S.O. Δ wh. tn	LS: wh. tn fkn dn	LS: gry fs/f dn
------------------------	----------------------	--	---	--	---	--	-------------------	--	---	-------------------	-----------------

Vis. dropped from heavy rainfall poor samples for 4 samples

Board 3479.70  
Strap 3478.92  
Diff .78  
Incline @ 3460' 4°

Trilobite Testing  
DST #1 3440-3460

20

40

60

80

3400

'A'

20

-conn

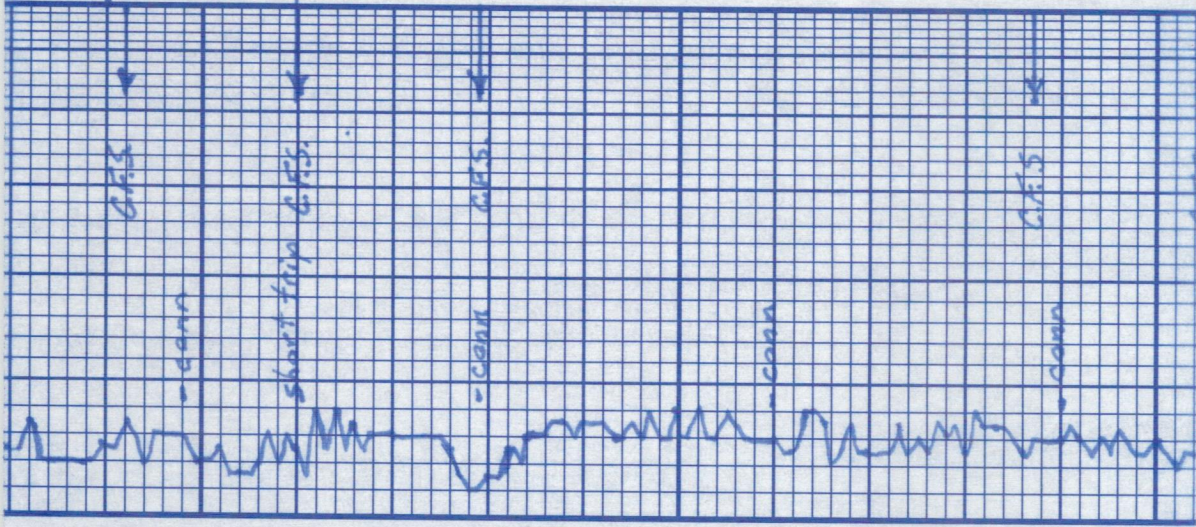
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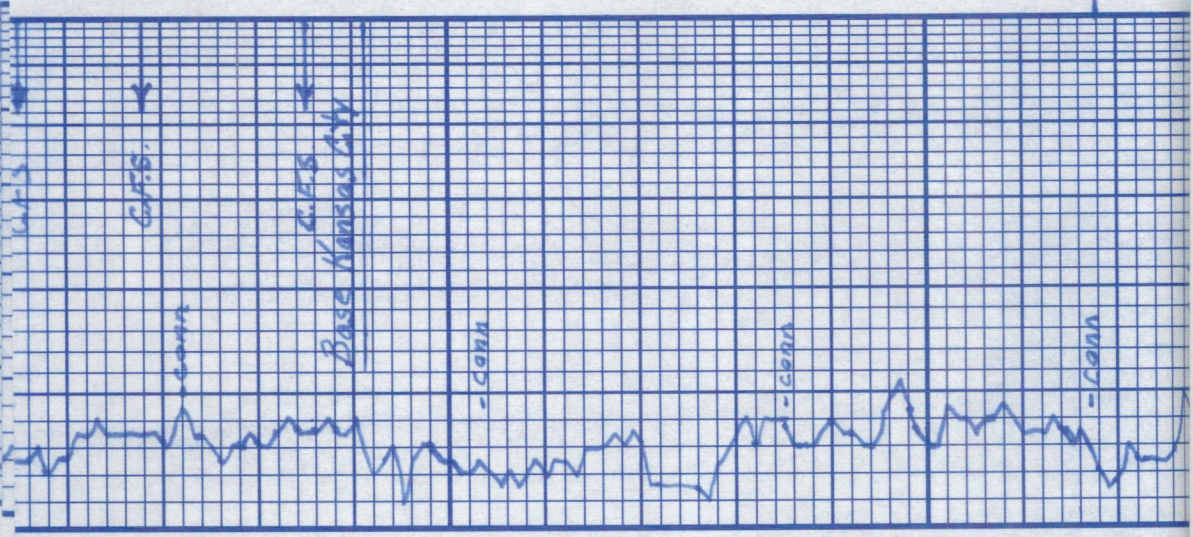




sk: brn, gry, grn  
 LS: wh-tn sli: cky-feln Tr sli.  
 fslf ppφ Tr. vly φ Lt. sptd  
 0 Str. N.F.F. φ fr. adot  
 Δ wh-tn gry  
 Sk: brn + gry  
 LS: wh-tn sli: cky-feln-sli sup  
 ind φ Seat pos. Lt. sptd Ostr  
 Tr floating F. q No odor  
 Δ wh-gry  
 LS: tn-gry felndns  
 LS: wh-tn fxlndns N.S.O.  
 LS: wh-tn fxlndns Seat oöl impart  
 φ Tr. vly φ pr. Lt. O Str N.F.O.  
 No odor to A wh.  
 LS: wh-tn fxlndns oöl pr. ppφ  
 N.S.O.  
 LS: wh-tn fxlndns  
 LS: wh-tn Lt. gry fxlndns  
 Sk: blk Carb.  
 LS: tn-gry mtid fslf dns  
 Siltstone: gry + brn  
 LS: wh-tn sli: cky-feln Tr.  
 sli: fslf Tr. pr. pp φ pr. Lt.  
 Sptd Ostr N.F.O. No odor  
 LS: tn-Lt. gry fxlndns  
 Sk: gry, brn, grn  
 LS: wh-tn fslf Tr. pr. ppφ  
 Tr. pr. Lt. sptd Ostr N.F.O.

15-30-15-30  
 IF: B.O.B. in 10 min  
 ISI: No blow  
 FF: B.O.B. in 12 min  
 FSI: No blow  
 Recovery: 300' MW N.S.O.  
 70% W, 30% M  
 Hyd: 1652-1632 #  
 FP: 27-103/106-152 #  
 BHP: 738-728 #  
 BH Temp: 110°F.  
 DST #2 3469-3479  
 46-45-45-45  
 IF: wk blow incr to 3 1/2"  
 FF: wk blow incr to 1 1/2"  
 Recovery: 100' OCM  
 1520, 852 M  
 Hyd: 1667-1630 #  
 FP: 17-44/46-66 #  
 BHP: 829-819 #  
 BH Temp: 106°F.





60 J	LS: wh-tn fsh - slicky dns Scat Lt. Spth 0 stn V.R.T. PP.F.O. No odor R.T. isal. Vuge
80 K	Sh: brn + gry LS: wh-tn fsh oil slicky stic P.P.P. about Lt. Spth 0 stn T.P.P.F.O. on crushing No odor
L	LS: wh-tn slicky - fsh dns
3600	Sh: gry + brn
	Sh: brn - slty
20	LS: wh-tn slicky - fsh dns N.S.O.
	Sh: brn + gry
40	LS: wh-tn - yel fsh oil dns N.S.O.
	Sh: brn + gry N.S.O. fsh gn consol chr-frost
	LS: wh-tn slicky sdy N.S.O. A or
	Sh: gry + brn
60	LS: wh-tn slicky - fsh dns shly km tn-brn fsh dns
	Sh: brn + gry

DST #3 ran after logging at 3729' R.T.D. 3727' L.T.D

Test interval corrected drilling time.

DST #3 3666'-3727'  
45-45-45-45  
IF: incr. to 5 1/2" decr. to 1 1/2"  
IF: incr. to 3" decr. to 1/2"  
found a leak on head st.



412' 0:1 25° API  
 60' OCM 30% O 70% M  
 Hvd: 1823 - 1801 #  
 FP: 54-147/159-201 #  
 BHP: 740 - 643 #  
 BH Temp: 112 °F

✓	Lt. Spotted O sea N. no. Dol: wh-tn fxln inxln φ fr O sat fr bleeding Fe ft. odor
✓	Dol: wh-tn fxln - mxln inxln φ fr. O sat pp fxln st. decr. in O sat.
✓	Dol: tn-pk fxln dns mostly barren
	Dol: aa
	Dol: wh-tn fxln pr. inxln φ glass spks Thick tary- asph. spks No odor
	Dol: wh-tn fxln dns RT 5ft a.g.
	Dol: wh-tn fxln - fr mxln inc. glass spks inxln φ H.S.O.
	Dol: tn-yel-brn fxln dns

