



KANSAS CORPORATION COMMISSION 1095421
OIL & GAS CONSERVATION DIVISION

Form ACO-1
June 2009

Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 32016
Name: Wells, Rodger D. dba Pioneer Resources
Address 1: 80 Windmill Dr.
Address 2: _____
City: PHILLIPSBURG State: KS Zip: 67661 + _____
Contact Person: Rodger D. Wells
Phone: (785) 543-5556
CONTRACTOR: License # 33575
Name: WW Drilling, LLC
Wellsite Geologist: Steven P. Murphy
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
 Conv. to GSW
 Plug Back: _____ Plug Back Total Depth _____
 Commingled Permit #: _____
 Dual Completion Permit #: _____
 SWD Permit #: _____
 ENHR Permit #: _____
 GSW Permit #: _____

<u>05/07/2012</u>	<u>05/16/2012</u>	<u>05/16/2012</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-109-21084-00-00
Spot Description: _____
SE NW NW NW Sec. 13 Twp. 14 S. R. 32 East West
335 Feet from North / South Line of Section
335 Feet from East / West Line of Section
Footages Calculated from Nearest Outside Section Corner:
 NE NW SE SW
County: Logan
Lease Name: KNOPP Well #: 4
Field Name: MAURICE
Producing Formation: MORROW SAND
Elevation: Ground: 2816 Kelly Bushing: 2821
Total Depth: 4572 Plug Back Total Depth: _____
Amount of Surface Pipe Set and Cemented at: 220 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: 36000 ppm Fluid volume: 100 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite: _____
Operator Name: _____
Lease Name: _____ License #: _____
Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West
County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Letter of Confidentiality Received
Date: _____
 Confidential Release Date: _____
 Wireline Log Received
 Geologist Report Received
 UIC Distribution
ALT I II III Approved by: Deanna Garrison Date: 11/14/2012



1095421

Operator Name: Wells, Rodger D. dba Pioneer Resources Lease Name: KNOPP Well #: 4
 Sec. 13 Twp. 14 S. R. 32 East West County: Logan

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run: Attached	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Attached Top Attached Datum Attached
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CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
SURFACE	12	8.625	23	220	COMMON	150	2%GEL & 3% CC
PRODUCTION	7.875	5.5	15.5	4568	EA 2	175	

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input checked="" type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone	40-2270	COMMON	250	2% GEL & 3% CC

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
4	4470-4486	250 GAL MA	

TUBING RECORD: Size: <u>2 7/8</u> Set At: <u>4562</u> Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR. <u>06/20/2012</u>		Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____	
Estimated Production Per 24 Hours	Oil Bbls. <u>40</u>	Gas Mcf	Water Bbls. <u>20</u> Gas-Oil Ratio _____ Gravity <u>31</u>

DISPOSITION OF GAS: <input checked="" type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: <u>MORROW SAND</u>
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Form	ACO1 - Well Completion
Operator	Wells, Rodger D. dba Pioneer Resources
Well Name	KNOPP 4
Doc ID	1095421

All Electric Logs Run

COMPENSATED NEUTRON
COMPENSATED DENSITY
DIL
MICROLOG

Form	ACO1 - Well Completion
Operator	Wells, Rodger D. dba Pioneer Resources
Well Name	KNOPP 4
Doc ID	1095421

Tops

ANHY	2270	+551
TOPEKA	3576	-755
HEEBNER	3804	-983
LANSING	3839	-1018
PA	4294	-1473
FT. SCOTT	4350	-1529
CHEROKEE	4378	-1557
JOHNSON	4418	-1597
MORROW SH	4449	-1628
MISS	4496	-1675

JOB LOG

SWIFT Services, Inc.

DATE 06.13.12 PAGE NO. 7

CUSTOMER PRONEX Resources WELL NO. #4 LEASE KNOPP JOB TYPE ACIDIZING FORMATION TICKET NO. 22914

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1135							ON LOCATION QUALITY PLUS SWAB TEST ENCL. TRAIL PERFS. 4470'-86' FED. HT. SPOT 4490' 2 7/8 x 5 1/2 TRAIL 4455' CS. 31' = 7378 Bbl TB. 4455' 25.79445 Bbl TOTAL 26.53225 Bbl
	1415	3-0	8.50	✓		VAC		SPOTTED ACID
	1430	4	8.75	✓		0		START PUMP ENCL. REST OF ACID
	1432	2	12	✓		0		EN FEUSIT
	1436	4-0	25	✓		VAC		SHUT DOWN & LET HOLD
	1438	0	27.50	✓		0		LOADED 1 Bbl LATE GOOD SPOT
	1440	18-0	27.50	✓		100		STRAWING.
		"	28	✓		200		" GOOD DROP, BUILDS UP FAST
		"	28.75	✓		300		"
		"	29.50	✓		400		" 3 Bbl OUT
		"	31	✓		500		"
		"	32.25	✓		600		"
		"	33	✓		700		"
		"	33.75	✓		750		" 6 1/4 Bbl OUT
		"	34	✓		750		" DROPPING SLOWER
		"	35	✓		750		" GETTING TIGHT
	2005	1" TO	35.25	✓		750		CLOSED IN 3 3/4 Bbl LEFT REG DOWN TICKETS
	2015							JOB COMPLETED
								THANK YOU JUSTIN RUSSELL

JOB LOG

SWIFT Services, Inc.

DATE 05/16/12 PAGE NO. 1

CUSTOMER PIONEER Resources WELL NO. 4 LEASE KNOX JOB TYPE 2-STAGE TICKET NO. 271369

CHART NO.	TIME	RATE (BPM)	VOLUME (SBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1620							ONCEMATION CMT: BITTEN 175 SID E+2 TOP 300 SAND
								RTD 4572 SETUP 4500 SIS 2.2.54 TUBING 4546 5 1/2 13.5" (A.D.) (V.D. TO T) # 54, 2247 FT CMT 1.2, 3.4, 5, 7, 9, 11, 14, 54 BENTONITE 4, 15, 54 Reciprocating pumps 1-10 4ea 40 TONS
	1715							START CLEAN FLOTTING
	1900							TRE - DRILLING
	1900							BENTONITE & RECIPROCATING PUMP
	2040	5.0	12	-			200	SUCROSES MIX FLUSH
			20	-				200 LBS W/C FLUSH
			40.5	-				175 SID E+2
								DRILL DOWN LDRING, W/STAINLESS
		6.0	0	-			200	START DRILL W/100
			54	-			5	" " W/100
			100	-			600	
			105	-			700	
	2115	4.7	103.2	-			1500	LAND PLUG - RELEASE DRY! DRILL D.V. OPENING DRY
	2130			-			1100	OPEN D.V. CMC W/116 3110
	0030		7.5					PUMP R430, MHA 20
	0040	5.0	20	-			200	30 LBS W/C
			150	-			5	2500 SIS SAND
								DRILL D.V. CLOSING PLUG
		5.5	0	-			200	START DRILL
			25	-			400	C.M.C. CMT TO PIT! @ 50 SIS!
			50	-			500	
	0100	4.5	53.4	-			1300	LAND & CLOSE D.V.
	0200							JOB COMPLETE THANK YOU! DAN, JEFF, ZACK, T.J.

ALLIED CEMENTING CO., LLC. 035958

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

SERVICE POINT:
OKLEY

DATE <u>5-7-12</u>	SEC. <u>13</u>	TWP. <u>14S</u>	RANGE <u>32W</u>	CALLED OUT	ON LOCATION <u>3:30 PM</u>	JOB START <u>5:00 PM</u>	JOB FINISH <u>5:30 PM</u>
LEASE <u>RWAPP</u>	WELL# <u>4</u>	LOCATION <u>OKLEY 20S-1E-10N-E 2</u>			COUNTY <u>LOGAN</u>	STATE <u>Ks</u>	
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR <u>WYW SKS REG # 2</u>	OWNER <u>SAME</u>
TYPE OF JOB <u>SURFACE</u>	
HOLE SIZE <u>12 1/4"</u>	T.D. <u>222</u>
CASING SIZE <u>8 7/8"</u>	DEPTH <u>220.50</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>15</u>	
PERFS.	
DISPLACEMENT <u>13 BBLs</u>	

CEMENT AMOUNT ORDERED	<u>160 SKS COM 2% CC 2% GEL</u>
COMMON	<u>160 SKS @ 16.25 = 2600.00</u>
POZMIX	<u>3 SKS @ 21.25 = 63.75</u>
GEL	<u>6 SKS @ 58.25 = 349.50</u>
CHLORIDE	
ASC	
HANDLING <u>173 CU FT</u>	<u>@ 2.20 = 378.60</u>
MILEAGE <u>7.896 TONS X 20 X 2.25</u>	<u>= 354.24</u>
TOTAL <u>3747.50</u>	

EQUIPMENT

PUMP TRUCK # <u>422</u>	CEMENTER <u>TERRY</u>	HELPER <u>WAYNE</u>
BULK TRUCK # <u>404</u>	DRIVER <u>CHARS</u>	
BULK TRUCK #	DRIVER	

REMARKS:

Hook up to 9 7/8" CASING + BREAK CIRC.
PUMP 5 BBL WATER + MAX 160 SKS COM
3% CC 2% GEL. DISPLACE 13 BBL FRESH
WATER. SHUT IN SWAB & RELEASE
PRESSURE.

CEMENT did CIRC.

THANK YOU

SERVICE

DEPTH OF JOB	<u>220.50</u>
PUMP TRUCK CHARGE	<u>1175.00</u>
EXTRA FOOTAGE	@
MILEAGE <u>20</u>	<u>@ 7.00 = 140.00</u>
MANIFOLD	@
LUM <u>20</u>	<u>@ 4.50 = 90.00</u>
TOTAL <u>1345.00</u>	

CHARGE TO: PIONEER RESOURCES

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
TOTAL _____		

To Allied Cementing Co., LLC.

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

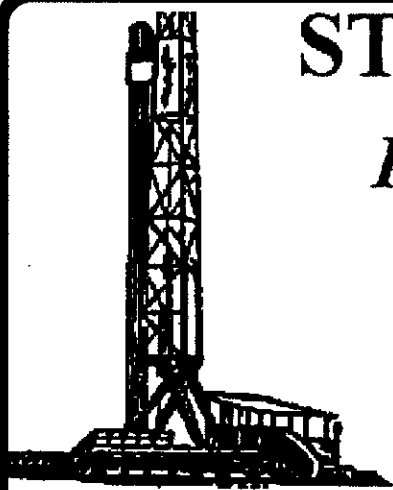
PRINTED NAME Lonnie Long

SIGNATURE [Signature]

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS



STEVEN P. MURPHY, P.G.

Petroleum Geologist (KS #228)

Cell 620.639.3030

Fax 785.387.2400

RR#1, Box 69

Otis, Kansas 67565

geomurphy@gbta.net

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

Well Name: Knopp #4

Location: Logan County

License Number: API # 15-109-21084-00-00

Spud Date: 5/7/12

Surface Coordinates: 335 FNL & 335 FWL (SE NW NW NW)

Section 13-T14S-R32W

Bottom Hole Coordinates: Vertical well w/minimal deviation

Ground Elevation (ft): 2816'

Logged Interval (ft): 3500'

Formation: Topeka through Mississippian

Type of Drilling Fluid: Chemical (Mudco, Inc)

K.B. Elevation (ft): 2821'

Total Depth (ft): RTD - 4570' LTD - 4572'

Region: Kansas
Drilling Completed: 5/16/12

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Pioneer Resources

Address: 80 Windmill Drive
Phillipsburg, KS 67661-9622

GEOLOGIST

Name: Steven P. Murphy, PG (Ks License #339)

Company: Consulting Petroleum Geologist

Address: 3365 CR 390
Otis, KS 67565

LogTops (Datum)

The open-hole logging was performed by Jeff Luebbers with Superior Well Services (Hays, KS shop). Logs included Compensated Neutron/Compensated Density, Dual Induction & Microlog.

Formation tops and datums from the open-hole logs include the following:

Anhydrite Top - 2270 (+551)
Anhydrite Base - 2295 (+525)
Topeka - 3576 (-755)
Heebner - 3804 (-983)
Toronto - 3820 (-999)
Lansing - 3839 (-1018)
Muncie Creek Sh - 3998 (-1177)
Stark Sh - 4086 (-1265)
Hushpuckney Sh - 4117 (-1296)
Base KC - 4166 (-1345)
Pawnee 4294 (-1473)
Myrick Station - 4333 (-1512)
Ft. Scott - 4350 (-1529)
Cherokee Sh - 4378 (-1557)
Johnson Zone - 4418 (-1597)
Morrow Sh - 4449 (-1628)
Basal Penn Sandstone - 4468 (-1647)
Mississippian - 4496 (-1675)

DRILL STEM TESTS #1-4

The following drillstem tests were performed by Will MacLean w/Trilobite Testing (Scott City, KS shop):

DST #1 3908-3940 (LKC "E-F")

30:30:30:45

IF: Wk blow built to 2-1/4", no return

FF: Wk blow built to 1-1/4", no return

Recovery: 53' GIP, 10' GMCO (3%G,
85%O, 12%M), 15' WCM (2%W, 98%M),

61' GWCM (2%G, 18%W, 80%M),

61' GOWCM (4%G, 4%O, 18%W, 74%M)

IHP: 1942 FHP: 1805

IFP: 25-76 ISIP: 1131

FFP: 80-97 FSIP: 1123

BHT - 111 F

Oil Gravity - 35

Water Chlorides - 36,000 ppm

DST #2 4020-4052 (LKC "H & I")

30:30:30:30

IF: 1/4" blow fell to surface blow, no return

FF: No blow, no return

Recovery: 5' OCM (1% O, 99% M)

IHP: 2010 FHP: 1868

IFP: 21-25 ISIP: 38

FFP: 25-25 FSIP: 31

BHT - 107 F

DST #3 4084-4110 (LKC "K")

30:30:30:30

IF: Wk blow built to 1", no return

FF: Wk surf blow, no return

Recovery: 63' GIP, 1' Oil, 61' OGCM (2% G, 2% O, 95% M), 61' WGM (3% G, 1% W, 96% M)

IHP: 2031 FHP: 1855

IFP: 24-52 ISIP: 1132

FFP: 56-79 FSIP: 1109

BHT - 107 F

DST #4 4252-4312 (Altamont-Pawnee)

45:45:45:60

IF: BOB in 17-1/2 min, no return

FF: BOB in 35-1/2 min, no return

Recovery: 453' MCW

IHP: 2157 FHP: 1926

IFP: 31-149 ISIP: 1140

FFP: 154-228 FSIP: 1142

BHT - 114 F

Chlorides - 24,000 ppm

DRILL STEM TESTS #5-8

DST #5 4320-4346 (MYRICK STATION)

30:30:30:30

IF: Wk surface blow, no return

FF: No blow, no return

Recovery: 5' OCM (2% O, 98% M)

IHP: 2200 FHP: 2021

IFP: 24-27 ISIP: 51

FFP: 26-8 FSIP: 39

BHT - 108 F

DST #6 4346-4376 (FT SCOTT)

15:15:15:15

Wk surface blow died in 4 min, no return

No blow, flushed, died, no return

Recovery: 2' Mud w/oil spots

IHP: 2150 FHP: 2082

IFP: 22-23 ISIP: 27

FFP: 23-23 FSIP: 26

BHT - 108 F

DST #7 4438-4406 (Cherokee Lime)

30:30:30:30

IF: Wk blow built to 3/4", no return

FF: No blow, no return

Recovery: 8' Mud w/oil spots

IHP: 2177 FHP: 2065

IFP: 26-32 ISIP: 780

FFP: 36-40 FSIP: 308

BHT - 112 F

DST #8 4402-4440 (Johnson Zone)

30:30:30:30

IF: Wk surface blow died in 24 min, no return

FF: No blow, no return

Recovery: 5' Mud

IHP: 2213 FHP: 016

IFP: 28-31 ISIP: 108

FFP: 30-32 FSIP: 64

BHT - 107 F

DRILL STEM TEST #9

DST #9 4442-4500 (Morrow Sst)

30:45:30:60

IF: BOB in 4 min, return BOB in 7 min

FF: BOB in 4 min, return BOB in 5 min

Recovery: 2,669' GIP, 252' MCO (10% M, 30% G, 60 %O),

189' Gsy Oil (30% G, 70% O), 252' Muddy Oil (90% O, 10% M), 189' Muddy Gsy Oil (10% M, 40% O, 50% G), 262' Oil (Gravity - 31)

IHP: 2209 FHP: 2136

IFP: 223-283 ISIP: 981

FFP: 287-393 FSIP: 918

BHT - 124 F

COMMENTS



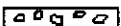

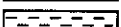

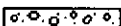








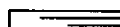
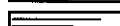


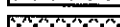
Based on the results of DSTs #1, #3, and #9, as well as sample & log analysis, it was recommended that casing be run to produce the Morrow Sandstone. Also, although not included in DST #8, the very lowest section of the Johnson Zone looks possibly productive. Before the well is abandoned, it is recommended that the lower lobe of the Johnson Zone, and the LKC "E, F & K" zones be evaluated through perforations. The following are the recommended perforation intervals:

Lower Johnson Zone: 4446-4448
 Morrow Sst: 4472-4487
 LKC "K" Zone: 4100-4104
 LKC "E" Zone: 3922-3925


Respectfully submitted,

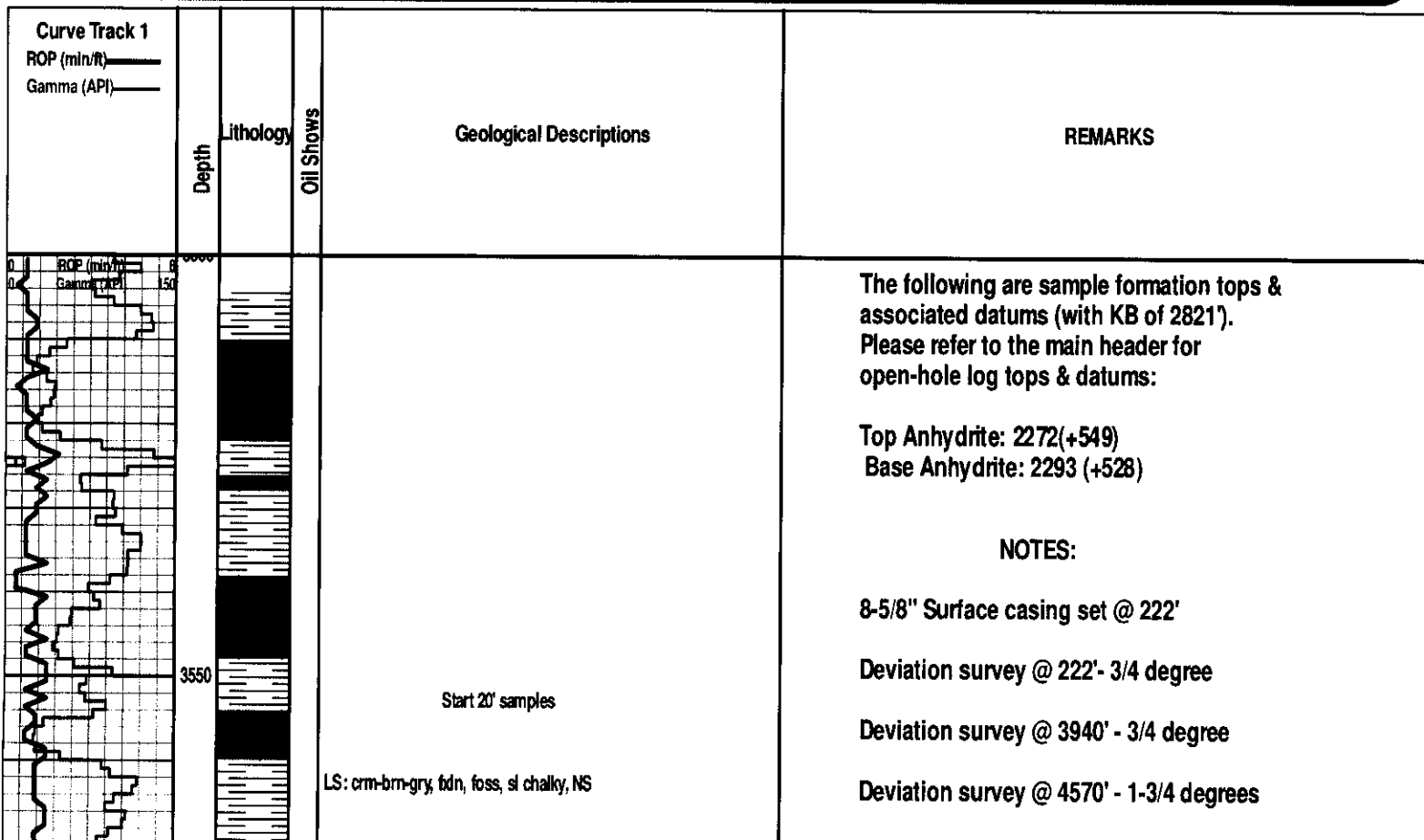
Steven P. Murphy, PG (KS License #228)
 Consulting Petroleum Geologist

ROCK TYPES

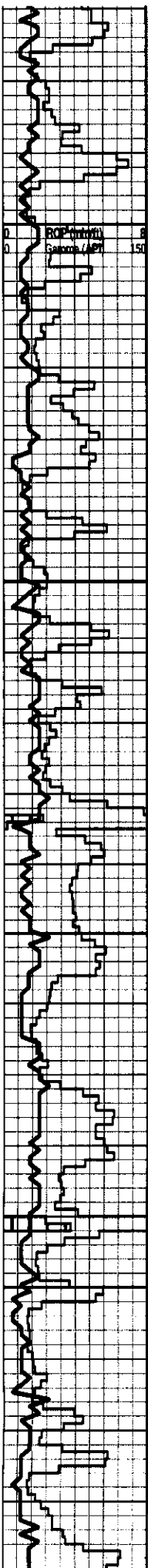
 Anhy  Bent  Brec  Cht  Clyst	 Coal  Congl  Dol  Gyp  Igne	 Lmst  Meta  Mrlst  Salt  Shale	 Shcol  Shgy  Slstt  Ss  Till
--	---	--	--

OTHER SYMBOLS

OIL SHOW  Even  Spotted  Ques	 Dead  Gas	INTERVAL  Core  Dst
EVENT  Conn  Rft  Sidewall		



TOPEKA 3576 (-755)



LS: tan-gry, vfdn, sl foss, dense, NS

LS: crm-gry, vfdn, sl foss, chalky, dense, NS

LS: as above

LS: crm-tan-gry, fxdn, foss, fr indn por, chalky, NS

LS: tan-gry, fxdn, foss, fr indn por, sl chalky, sl mottled, NS

LS: crm-tan, fxdn, foss, fr-gd indn por, sl chalky, NS

LS: as above

SH: blk, carb

LS: crm-gry, fxdn, foss, dense, mottled, NS

SH: gry-grn-red, silty

LS: crm-gry, vfdn, sl foss, dense, sl chalky, NS

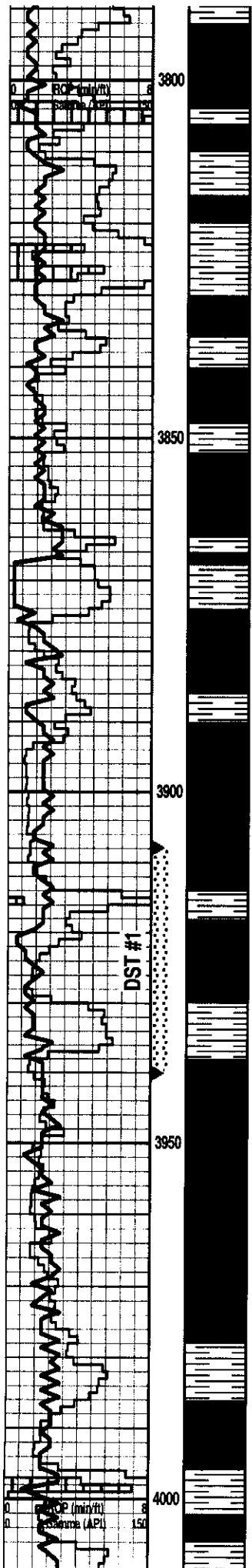
LS: crm-gry, fxdn, foss, sl chalky, fr indn por, NS

SH: blk-gry

Start 10' samples

LS: crm-tan, vfdn, sl foss, dense, NS

LS: as above



LS: crm-gry, vfdn, dense, NS

SH: blk, carb

SH: gry-grn-red

SH: as above

LS: crm-tan, fxdn, sl foss, dense, chalky, NS

SH: gry-grn

LS: wht-tan, vfdn, dense, chalky, NS

LS: crm-tan-gry, vfdn, oolitic in pt, dense, NS

SH: gry-grn

LS: wht-crm, fxdn, oolc in pt, chalky, dense, NS

LS: as above

SH: gry-grn-blk

LS: crm, vfdn, dense, sl chalky, NS

SH: gm-gry

LS: crm-gry, vfdn, dense, chalky, NS

• LS: crm-tan, fxdn, fr ppt por, ssfo (gsy on brk), even brn str, str odor

• LS: wht-tan, fxdn, oolc, fr-gd ppt & vug por, fsfo (gsy on brk), even brn str, str odor

LS: crm-tan, vfdn, dense, chalky, NS

LS: crm-tan, vfdn, sl oolc, dense, chalky, NS

LS: as above

LS: crm-tan-gry, vfdn, sl oolc, dense, chalky, NS

LS: as above

SH: blk, carb-gry-brn

LS: tan-brn, vfdn, mottled, dense, NS

HEEBNER 3802 (-981)

TORONTO 3819 (-998)

LANSING 3836 (-1015)

DST #1 3908-3940 (LKC "E-F")

30:30:30:45

IF: Wk blow built to 2-1/4", no return

FF: Wk blow built to 1-1/4", no return

Recovery: 53' GIP, 10' GMCO (3%G,

85%O, 12%M), 15' WCM (2%W, 98%M),

61' GWCM (2%G, 18%W, 80%M),

61' GOWCM (4%G, 4%O, 18%W, 74%M)

IHP: 1942 FHP: 1805

IFP: 25-76 ISIP: 1131

FFP: 80-97 FSIP: 1123

BHT - 111 F

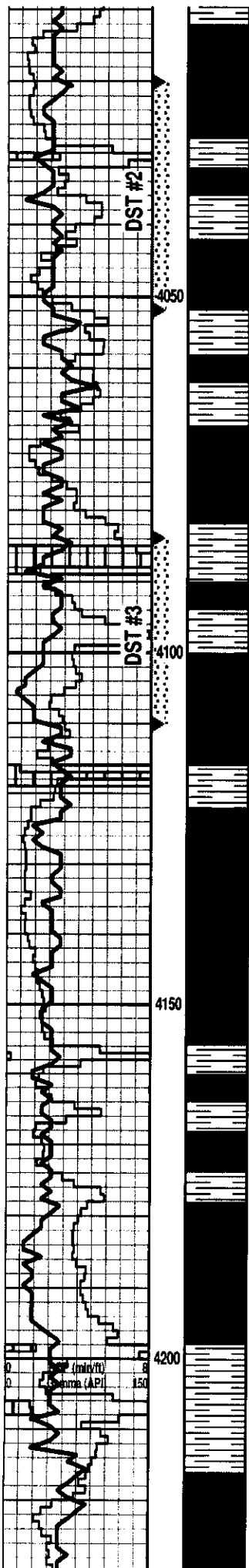
Oil Gravity - 35

Water Chlorides - 36,000 ppm

Strap @ 3940' - 0.05' short to board

Survey @ 3940' - 3/4 degree

MUNCIE CREEK 3998 (-1177)



sn. gry-grn

LS: wht-tan-gry, vfdn, dense, sl chalky, NS

LS: wht-tan, fxdn, sl foss, mostly dense, rare fl inxdn por, ssfo on brk, spotty brn str, fr odor

SH: gry-blk-gm-mar

SH: as above

LS: crm-tan, fxdn, oolic, fr-gd vug por, fsfo, even sat str, str odor

SH: gm-blk-gry-brn-red

LS: wht-tan-gry, vfdn, dense, sl chalky, NS

SH: gry-grn-brn

LS: wht-crm, fxdn, oolic in pt, pr-fr ppt por (mostly dense), vssfo, spotty str, fr odor

LS: crm-gry, vfdn, dense, chalky, NS

LS: tan-gry, vfdn, dense, NS

SH: blk, carb

LS: crm-gry, vfdn, dense, NS

SH: gry-grn-brn

LS: crm-tan, fxdn, oolic, fr vug por, fsfo, even sat str, fr odor

LS: crm-brn-gry, vfdn, sl chalky, dense, nsfo, minor edge str, sl odor

SH: blk, carb

SH: gry-grn-mar

LS: crm-tan-gry, vfdn, dense, sl chalky, NS

LS: as above

SH: gry-blk-gm-mar

LS: crm-brn, vfdn, dense, chalky, NS

LS & SH: as above

SH: gry-blk-gm-mar

LS: crm-tan-gry, vfdn, dense, NS

SH: gry-grn-blk-mar

LS: crm-tan, vfdn, sl foss, oolitic in pt, dense, NS

LS: as above

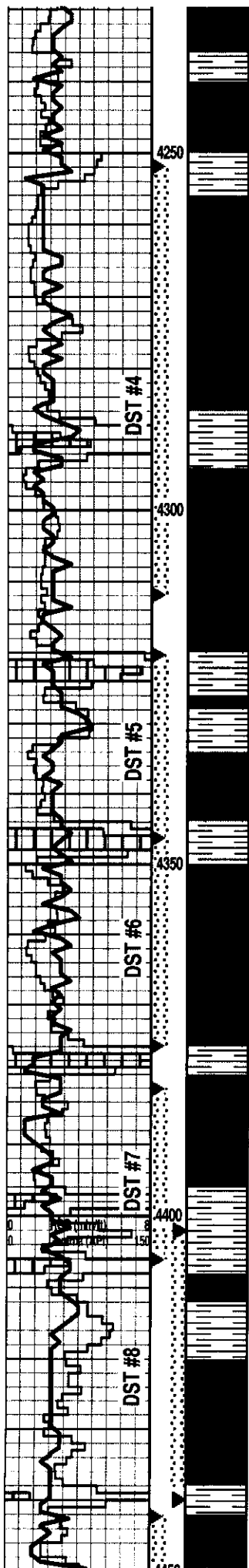
DST #2 4020-4052 (LKC "H & I")
 30:30:30:30
 IF: 1/4" blow fell to surface blow, no return
 FF: No blow, no return
 Recovery: 5' OCM (1% O, 99% M)
 IHP: 2010 FHP: 1868
 IFP: 21-25 ISIP: 38
 FFP: 25-25 FSIP: 31
 BHT - 107 F

STARK 4087 (-1266)

DST #3 4084-4110 (LKC "K")
 30:30:30:30
 IF: Wk blow built to 1", no return
 FF: Wk surf blow, no return
 Recovery: 63' GIP, 1' Oil, 61' OGCM (2% G, 2% O, 95% M), 61' WGM (3% G, 1% W, 96% M)
 IHP: 2031 FHP: 1855
 IFP: 24-52 ISIP: 1132
 FFP: 56-79 FSIP: 1109
 BHT - 107 F

HUSHPUCKNEY 4124 (-1303)

BKC 4159 (-1338)



SH: mar-grm-gry-red

LS: crm-tan-gry, vfdn, oolitic in pt, dense, NS

SH: blk-gry-gm-red

LS: crm-tan, f-vfdn, oolitic in pt, nsfo, rare spotty live str, no odor

LS: crm-tan, fdn, oolitic-oolic, vssfo, spotty live str, fr odor

LS: crm-tan-gry, vfdn, oolitic in pt,

LS: as above

SH: blk, carb

LS & CHT: crm-tan, fdn, sl chalky, sucrosic & oolic, gd indn & vug por, gsfo, even sat str, str odor (chert like blue, vitreous, sharp)

LS & CHT: as above

LS: tan-brn-gry, vfdn, dense, chalky, nsfo, minor spotty str, v sl odor

SH: blk, carb

LS: crm-tan-gry, fdn, oolitic, fr-gd ppt & vug por, fsfo, even sat str, str odor

LS: as above

LS: tan-brn, vfdn, oolitic, dense, NS

SH: blk, carb

LS: tan-gry, fdn, foss, oolic in pt, fr ppt & vug por, much dense, fsfo, spotty str, gd odor

LS: as above w/ssfo, spotty str, sl odor

SH: blk, carb

LS: crm-tan-gry, f-vfdn, oolitic-oolitic, sl chalky, fr-gd ppt/vug por, gsfo, even str, str odor

LS: as above

SH: blk-gry-gm

LS: tan-brn, vfdn, dense, NS

LS: crm-tan, fdn, sl foss, mostly dense, ssfo, fr indn por, spotty str, fr odor

LS: crm-tan-brn, fdn, oolic in pt, fr-gd ppt & vug por, fsfo, even str, str odor

SH: gm-gry-yel-red

LS: tan-brn, fdn, fr ppt por, minor vug por, ssfo, spotty str, gd odor

DST #4 4252-4312 (Altamont-Pawnee)
 45:45:45:60
 IF: BOB in 17-1/2 min, no return
 FF: BOB in 35-1/2 min, no return
 Recovery: 45' MCW
 IHP: 2157 FHP: 1926
 IFP: 31-149 ISIP: 1140
 FFP: 154-228 FSIP: 1142
 BHT - 114 F
 Chlorides - 24,000 ppm

PAWNEE 4294 (-1473)

DST #5 4320-4346 (MYRICK STATION)
 30:30:30:30
 IF: Wk surface blow, no return
 FF: No blow, no return
 Recovery: 5' OCM (2% O, 98% M)
 IHP: 2200 FHP: 2021
 IFP: 24-27 ISIP: 51
 FFP: 26-8 FSIP: 39
 BHT - 108 F

MYRICK STATION 4331 (-1510)

FT SCOTT 4350 (-1529)

DST #6 4346-4376 (FT SCOTT)
 15:15:15:15
 Wk surface blow died in 4 min, no return
 No blow, flushed, died, no return
 Recovery: 2' Mud w/oil spots
 IHP: 2150 FHP: 2082
 IFP: 22-23 ISIP: 27
 FFP: 23-23 FSIP: 26
 BHT - 108 F

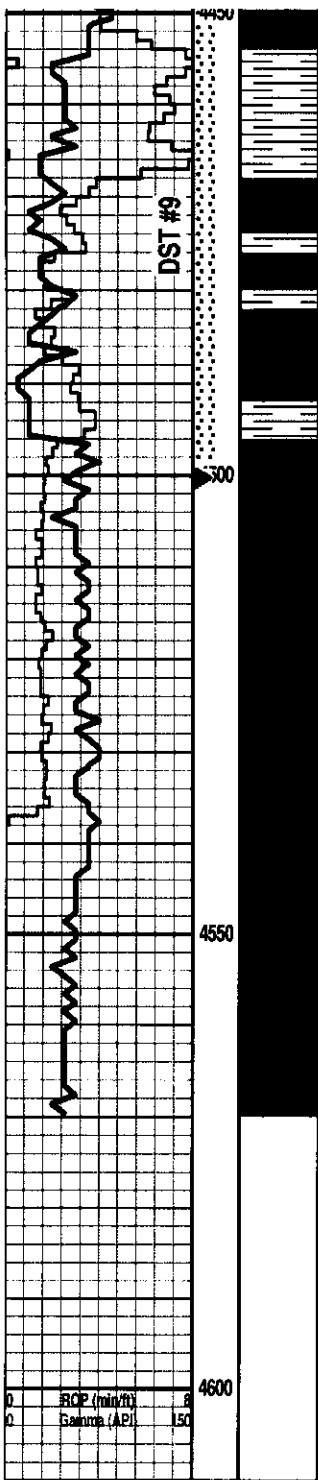
CHEROKEE 4377 (-1556)

DST #7 4438-4406 (Cherokee Lime)
 30:30:30:30
 IF: Wk blow built to 3/4", no return
 FF: No blow, no return
 Recovery: 8' Mud w/oil spots
 IHP: 2177 FHP: 2065
 IFP: 26-32 ISIP: 780
 FFP: 36-40 FSIP: 308
 BHT - 112 F

JOHNSON 4415 (-1594)

DST #8 4402-4440 (Johnson Zone)
 30:30:30:30
 IF: Wk surface blow died in 24 min, no return
 FF: No blow, no return
 Recovery: 5' Mud
 IHP: 2213 FHP: 016
 IFP: 28-31 ISIP: 108
 FFP: 30-32 FSIP: 64
 BHT - 107 F

MORROW SH
 4451 (-1620)



SH: gry-grn-olive-brn-red-blk w/interbedded sst

SH: as above

● SST: cl-tan, f-mgr, prly std, sub-rd, friable to firm clusters, gsf (gsy), even sat stn, str odor

● Interbedded shales & sst: as above, w/gsf, stn & odor

● Interbedded shales & sst: as above, w/gsf, stn & odor

● SST: cl-tan, f-mgr, prly std, sub-rd, friable to firm clusters, gsf (gsy), even sat stn, str odor

LS: wht-tan, vfxdn, oolitic & sandy, dense, sl chalky, NS

LS: as above

LS: as above

LS: tan-gry, vfxdn, sandy & oolitic in pt, dense, NS

LS: crm-gry, vfxdn, oolitic, dense, NS

LS: as above w/minor cht

LS: as above

RTD - 4570'

LTD - 4572'

4451 (-1030)

DST #9 4442-4500 (Morrow Sst)

30:45:30:60

IF: BOB in 4 min, return BOB in 7 min

FF: BOB in 4 min, return BOB in 5 min

MORROW SST
4466 (-1645)

Recovery: 252' MCO (10% M, 30% G, 60% O),

188' Gsy Oil (30% G, 70% O), 252' Muddy Oil

(90% O, 10% M), 188' Muddy Gsy Oil

(10% M, 40% O, 50% G), 262' Oil (Grav - 31),

2,669' GIP

IHP: 2209 FHP: 2136

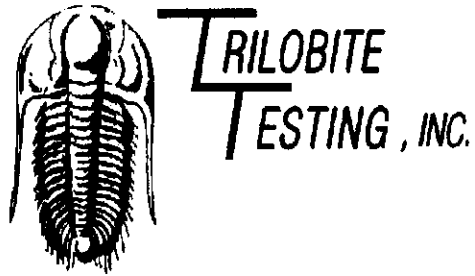
IFP: 223-283 ISIP: 981

FFP: 267-393 FSIP: 918

BHT - 124 F

MISSISSIPPIAN 4496 (-1675)

5-1/2" Production casing set @ 4568',
cemented by Swift w/175 sacks of DA-2. A
DV tool was set @ 2247' w/270 sacks of
FMD



DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.10 @ 09:22:00

End Date: 2012.05.10 @ 15:39:09

Job Ticket #: 45877 DST #: 1

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

Printed: 2012.05.17 @ 15:36:56



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 45877

DST#: 1

Test Start: 2012.05.10 @ 09:22:00

GENERAL INFORMATION:

Formation: **LKC "E - F"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 11:22:55

Time Test Ended: 15:39:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Will MacLean

Unit No: 40

Interval: **3908.00 ft (KB) To 3940.00 ft (KB) (TVD)**

Total Depth: 3940.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2816.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 97.55 psig @ 3909.00 ft (KB)

Start Date: 2012.05.10

End Date: 2012.05.10

Start Time: 09:22:00

End Time: 15:39:09

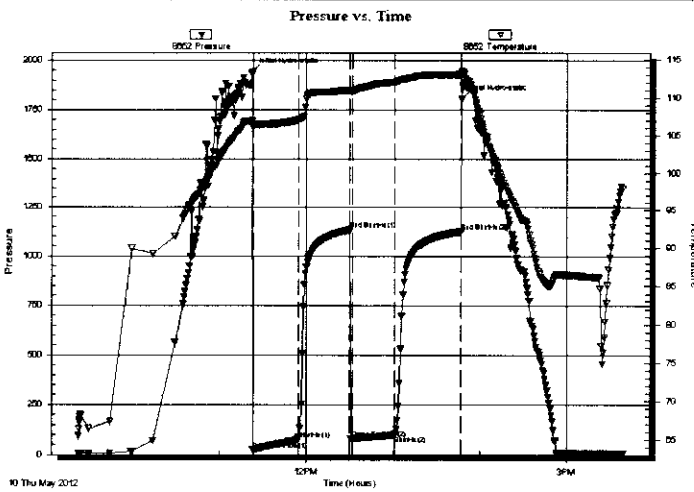
Capacity: 8000.00 psig

Last Calib.: 2012.05.10

Time On Btm: 2012.05.10 @ 11:22:40

Time Off Btm: 2012.05.10 @ 13:47:39

TEST COMMENT: IF- Weak Surface Blow Built to 2 1/4"
IS- No Blow
FF- Weak Surface Blow Built to 1 1/4"
FSI- No Blow



PRESSURE SUMMARY

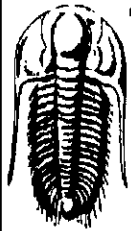
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1942.86	106.93	Initial Hydro-static
1	25.09	106.17	Open To Flow (1)
32	76.18	107.08	Shut-In(1)
68	1131.85	110.96	End Shut-In(1)
69	80.66	110.88	Open To Flow (2)
99	97.55	112.02	Shut-In(2)
145	1123.19	113.03	End Shut-In(2)
145	1805.04	113.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
61.00	GOWCM 4%g 4%oil 18%w 74%m	0.30
61.00	GWCM 2%g 18%w 80%m	0.30
15.00	WCM 2%w 98%m	0.20
10.00	GMCO 3%g 12%m 85%oil	0.14
0.00	53' of GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan, KS

Knopp #4
Job Ticket: 45877 **DST#: 1**
Test Start: 2012.05.10 @ 09:22:00

GENERAL INFORMATION:

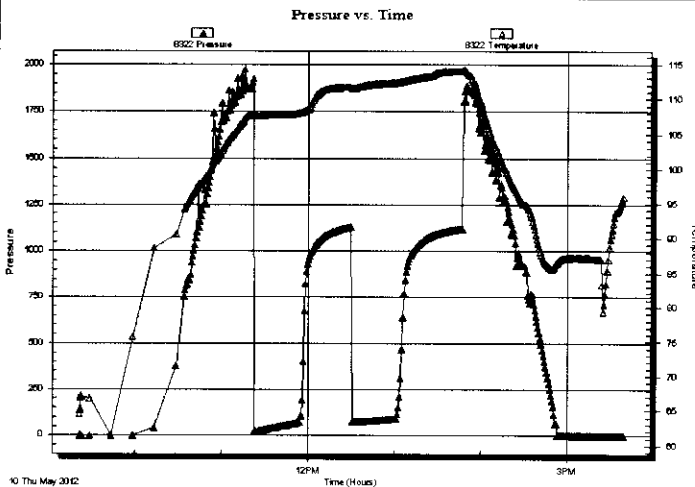
Formation:	LKC "E-F"		
Deviated:	No Whipstock:	0.00 ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	11:22:55		Tester: Will MacLean
Time Test Ended:	15:39:09		Unit No: 40
Interval:	3908.00 ft (KB) To 3940.00 ft (KB) (TVD)		Reference Elevations: 2821.00 ft (KB)
Total Depth:	3940.00 ft (KB) (TVD)		2816.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Good	KB to GR/CF: 5.00 ft

Serial #: 8322

Outside

Press@RunDepth:	psig @ 3909.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2012.05.10	End Date:	2012.05.10
Start Time:	09:21:45	End Time:	15:38:54
		Time On Btm:	
		Time Off Btm:	

TEST COMMENT: IF- Weak Surface Blow Built to 2 1/4"
IS- No Blow
FF- Weak Surface Blow Built to 1 1/4"
FSI- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
61.00	GOWCM 4%g 4%oil 18%w 74%m	0.30
61.00	GWCM 2%g 18%w 80%m	0.30
15.00	WCM 2%w 98%m	0.20
10.00	GMCO 3%g 12%m 85%oil	0.14
0.00	53' of GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45877 **DST#: 1**
Test Start: 2012.05.10 @ 09:22:00

Tool Information

Drill Pipe:	Length: 3783.00 ft	Diameter: 3.80 inches	Volume: 53.07 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 14000.00 lb
			<u>Total Volume: 53.67 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3908.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

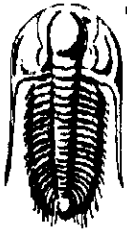
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3882.00	
Shut In Tool	5.00			3887.00	
Hydraulic tool	5.00			3892.00	
Jars	5.00			3897.00	
Safety Joint	2.00			3899.00	
Packer	5.00			3904.00	27.00 Bottom Of Top Packer
Packer	4.00			3908.00	
Stubb	1.00			3909.00	
Recorder	0.00	8652	Inside	3909.00	
Recorder	0.00	8322	Outside	3909.00	
Perforations	28.00			3937.00	
Bullnose	3.00			3940.00	32.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4
Job Ticket: 45877 **DST#: 1**

Test Start: 2012.05.10 @ 09:22:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 35 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 36000 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.27 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 3300.00 ppm		
Filter Cake: 1.00 inches		

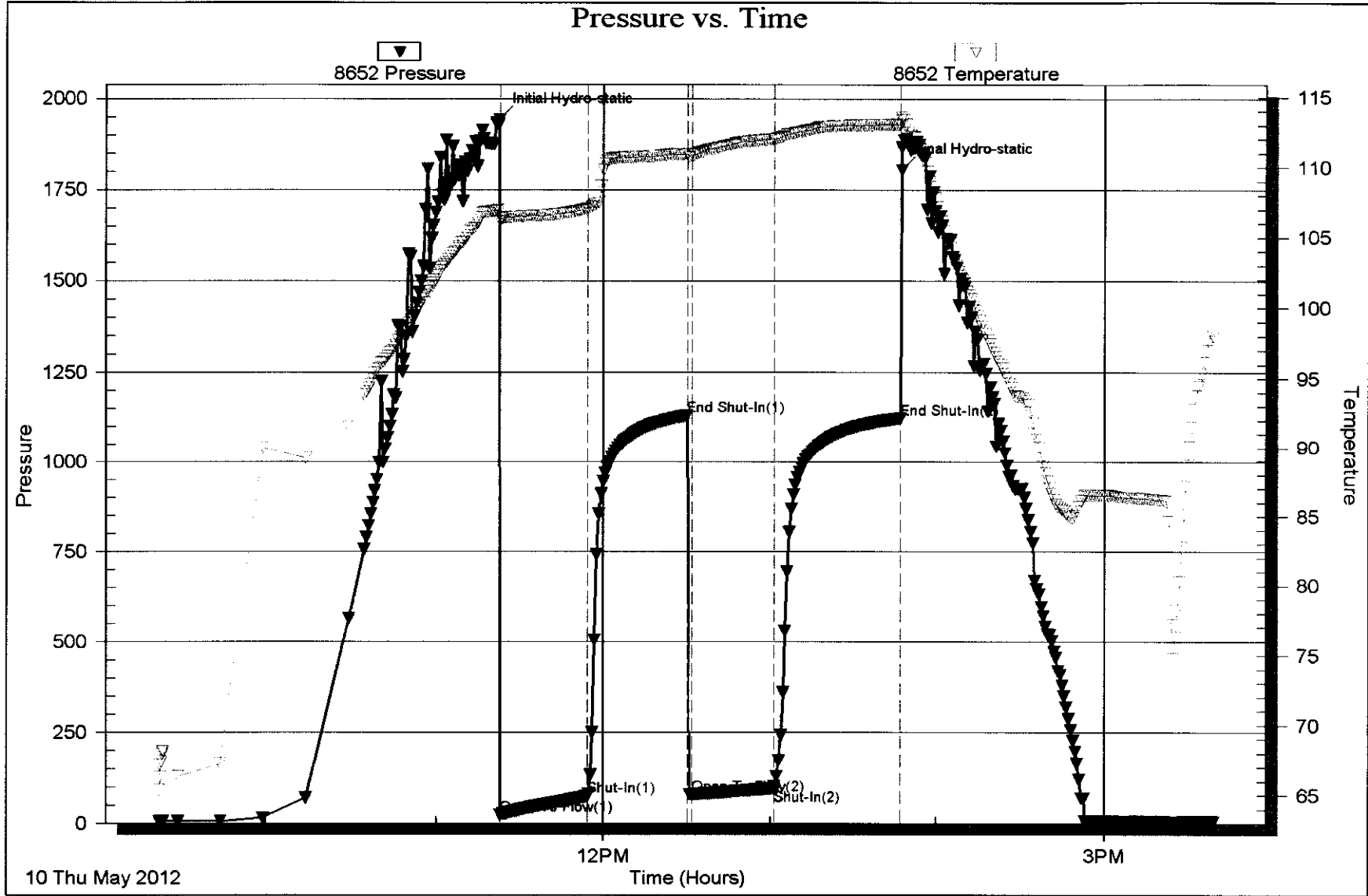
Recovery Information

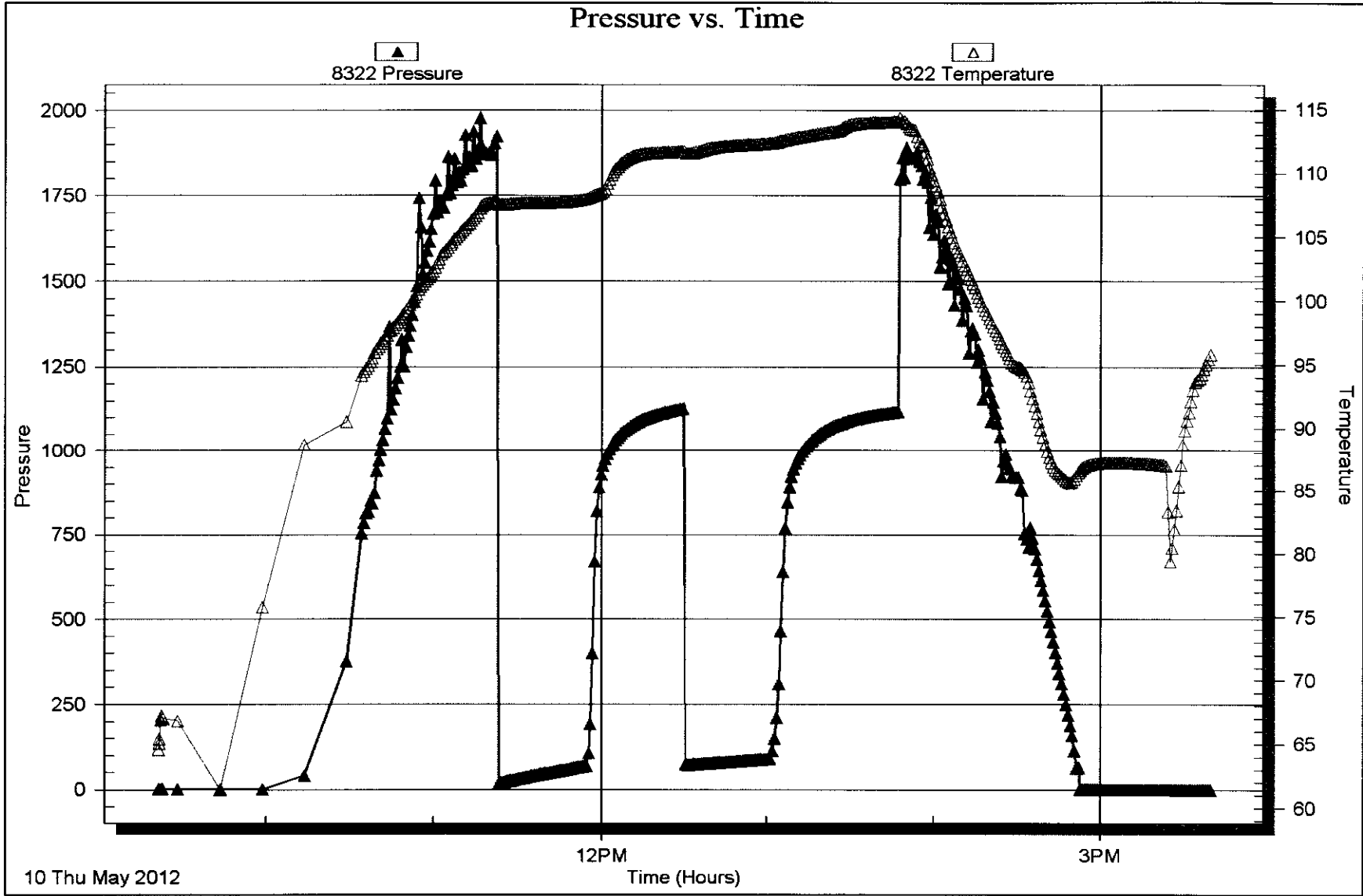
Recovery Table

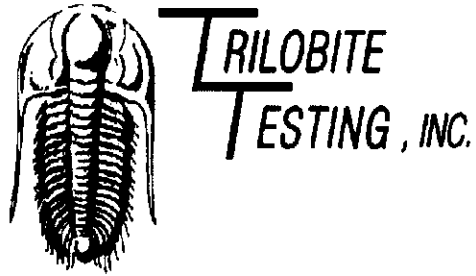
Length ft	Description	Volume bbl
61.00	GOWCM 4%g 4%oil 18%w 74%m	0.300
61.00	GWCM 2%g 18%w 80%m	0.300
15.00	WCM 2%w 98%m	0.201
10.00	GMCO 3%g 12%m 85%oil	0.140
0.00	53' of GIP	0.000

Total Length: 147.00 ft Total Volume: 0.941 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: API is 38 @ 93f = 35
RW is .142 @ 93f = 36000







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.11 @ 04:34:00

End Date: 2012.05.11 @ 10:02:54

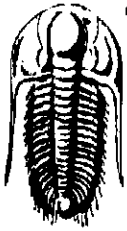
Job Ticket #: 45878 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.17 @ 15:35:35



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources
80 Windrill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 45878

DST#: 2

Test Start: 2012.05.11 @ 04:34:00

GENERAL INFORMATION:

Formation: **LKC "I"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 06:21:25

Time Test Ended: 10:02:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: **4020.00 ft (KB) To 4052.00 ft (KB) (TVD)**

Total Depth: 4052.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2816.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 25.68 psig @ 4021.00 ft (KB)

Start Date: 2012.05.11

End Date: 2012.05.11

Start Time: 04:34:00

End Time: 10:02:54

Capacity: 8000.00 psig

Last Calib.: 2012.05.11

Time On Btm: 2012.05.11 @ 06:21:10

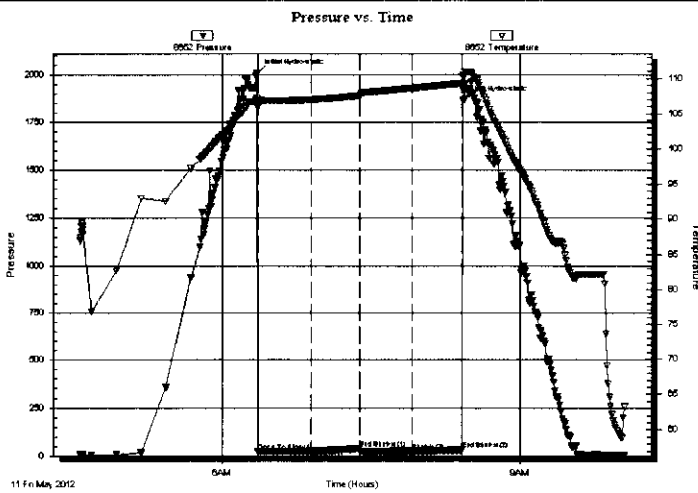
Time Off Btm: 2012.05.11 @ 08:25:10

TEST COMMENT: IF- 1/4" Blow Died Back to Weak Surface Blow

IS- No Blow

FF- No Blow

FSI- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2010.78	107.25	Initial Hydro-static
1	21.80	105.93	Open To Flow (1)
32	25.45	107.01	Shut-In(1)
62	38.75	107.57	End Shut-In(1)
62	25.02	107.63	Open To Flow (2)
93	25.68	108.63	Shut-In(2)
124	31.70	109.32	End Shut-In(2)
124	1868.79	110.53	Final Hydro-static

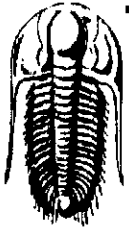
Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 1%oil 99%rm	0.02

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45878 **DST#: 2**
Test Start: 2012.05.11 @ 04:34:00

GENERAL INFORMATION:

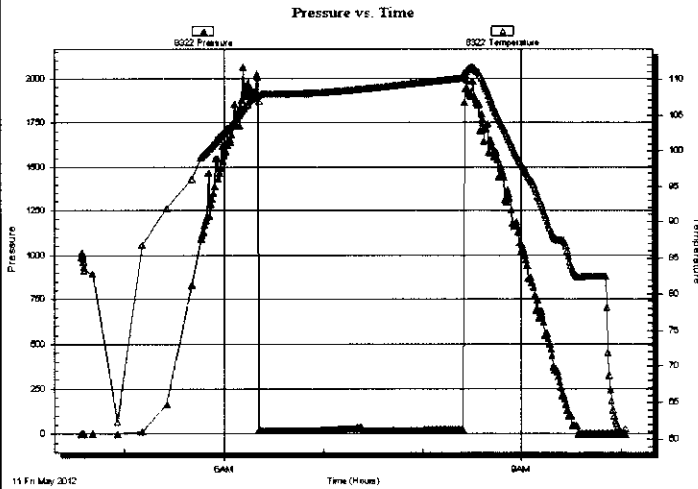
Formation:	LKC "I"	Test Type:	Conventional Bottom Hole (Reset)	
Deviated:	No Whipstock:	0.00 ft (KB)	Tester:	Will MacLean
Time Tool Opened:	06:21:25	Unit No:	40	
Time Test Ended:	10:02:54	Reference Elevations:	2821.00 ft (KB) 2816.00 ft (CF)	
Interval:	4020.00 ft (KB) To 4052.00 ft (KB) (TVD)	KB to GR/CF:	5.00 ft	
Total Depth:	4052.00 ft (KB) (TVD)			
Hole Diameter:	7.88 inches	Hole Condition:	Good	

Serial #: 8322

Outside

Press@RunDepth:	psig @	4021.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2012.05.11	End Date:	2012.05.11	Last Calib.:	2012.05.11
Start Time:	04:33:45	End Time:	10:02:54	Time On Btm:	
			Time Off Btm:		

TEST COMMENT: IF- 1/4" Blow Died Back to Weak Surface Blow
IS- No Blow
FF- No Blow
FS- No Blow



PRESSURE SUMMARY

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

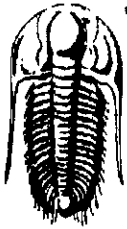
Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 1%oil 99% <i>m</i>	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 45878

DST#: 2

Test Start: 2012.05.11 @ 04:34:00

Tool Information

Drill Pipe:	Length: 3879.00 ft	Diameter: 3.80 inches	Volume: 54.41 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 18000.00 lb
			Total Volume: 55.01 bbl	Tool Chased ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4020.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

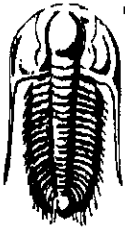
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3994.00	
Shut In Tool	5.00			3999.00	
Hydraulic tool	5.00			4004.00	
Jars	5.00			4009.00	
Safety Joint	2.00			4011.00	
Packer	5.00			4016.00	27.00 Bottom Of Top Packer
Packer	4.00			4020.00	
Stubb	1.00			4021.00	
Recorder	0.00	8652	Inside	4021.00	
Recorder	0.00	8322	Outside	4021.00	
Perforations	28.00			4049.00	
Bullnose	3.00			4052.00	32.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45878 **DST#: 2**
Test Start: 2012.05.11 @ 04:34:00

Mud and Cushion Information

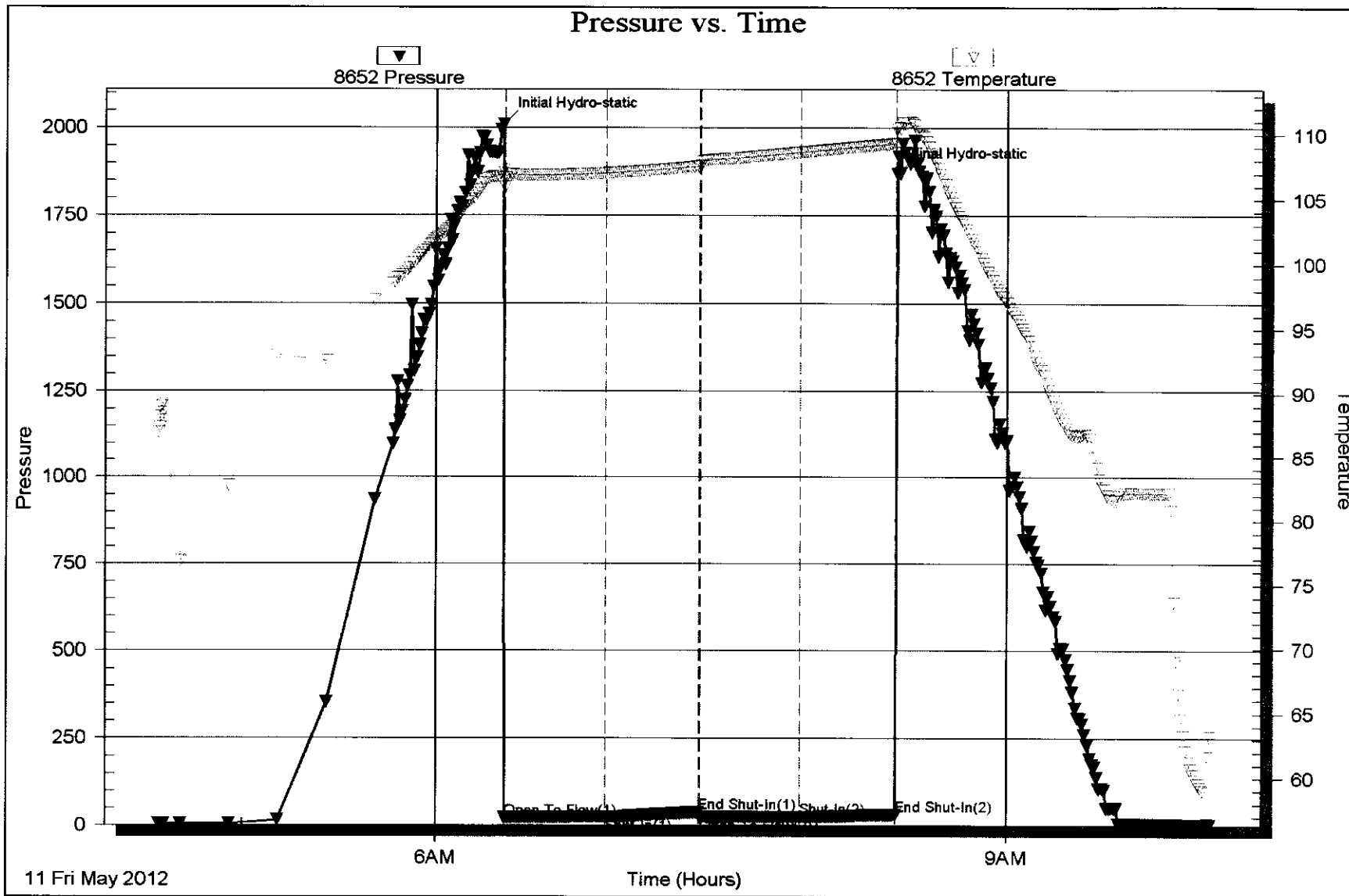
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.24 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3300.00 ppm			
Filter Cake: 1.00 inches			

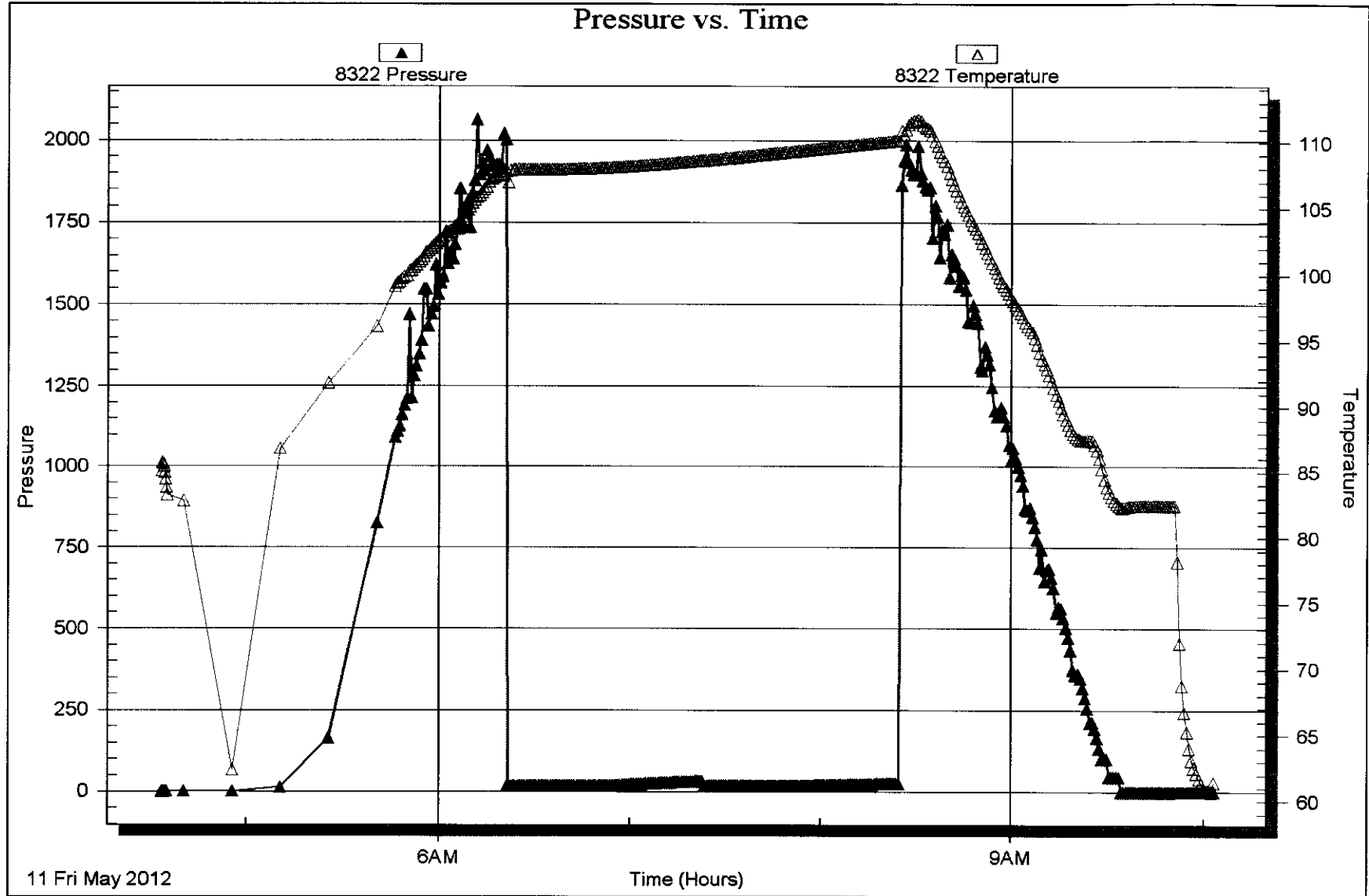
Recovery Information

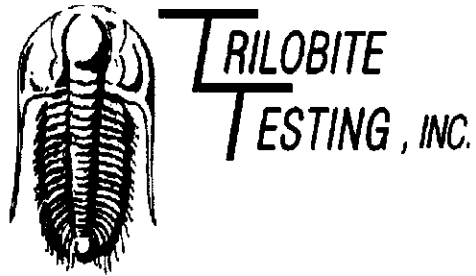
Recovery Table

Length ft	Description	Volume bbl
5.00	OCM 1%oil 99%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.11 @ 19:04:00

End Date: 2012.05.12 @ 00:36:54

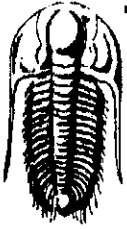
Job Ticket #: 45879 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.17 @ 15:34:23



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45879 **DST#: 3**
Test Start: 2012.05.11 @ 19:04:00

GENERAL INFORMATION:

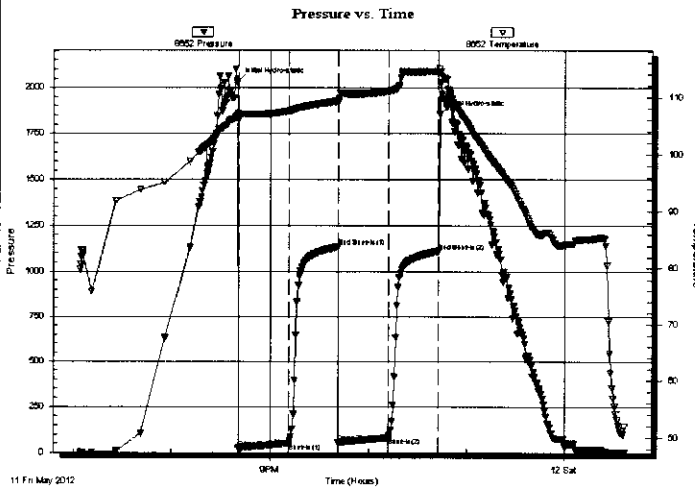
Formation: **LKC "K"**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 20:40:40
Time Test Ended: 00:36:54
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 40
Interval: **4084.00 ft (KB) To 4110.00 ft (KB) (TVD)**
Reference Elevations: 2821.00 ft (KB)
Total Depth: 4110.00 ft (KB) (TVD) 2816.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 79.73 psig @ 4087.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.05.11 End Date: 2012.05.12 Last Calib.: 2012.05.12
Start Time: 19:04:00 End Time: 00:36:54 Time On Btm: 2012.05.11 @ 20:40:25
Time Off Btm: 2012.05.11 @ 22:43:25

TEST COMMENT: IF- Weak Surface Blow Built to 1"
IS- No Blow
FF- Weak Surface Blow
FSI- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2031.31	107.09	Initial Hydro-static
1	24.73	106.08	Open To Flow (1)
31	52.24	107.51	Shut-In(1)
61	1132.12	109.30	End Shut-In(1)
62	56.77	109.14	Open To Flow (2)
92	79.73	111.01	Shut-In(2)
123	1109.12	114.51	End Shut-In(2)
123	1855.46	115.03	Final Hydro-static

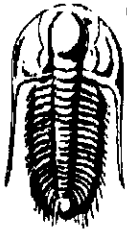
Recovery

Length (ft)	Description	Volume (bbl)
61.00	WGM 1%w 3%g 96%m Skim of Oil on	0.30
61.00	OGCM 2%oil 3%g 95%m	0.30
1.00	Oil	0.00
0.00	63' of GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45879 **DST#: 3**
Test Start: 2012.05.11 @ 19:04:00

GENERAL INFORMATION:

Formation: **LKC "K"**
Deviated: **No** Whipstock: **0.00 ft (KB)**
Time Tool Opened: **20:40:40**
Time Test Ended: **00:36:54**

Test Type: **Conventional Bottom Hole (Reset)**
Tester: **Will MacLean**
Unit No: **40**

Interval: **4084.00 ft (KB) To 4110.00 ft (KB) (TVD)**
Total Depth: **4110.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2821.00 ft (KB)**
2816.00 ft (CF)
KB to GR/CF: **5.00 ft**

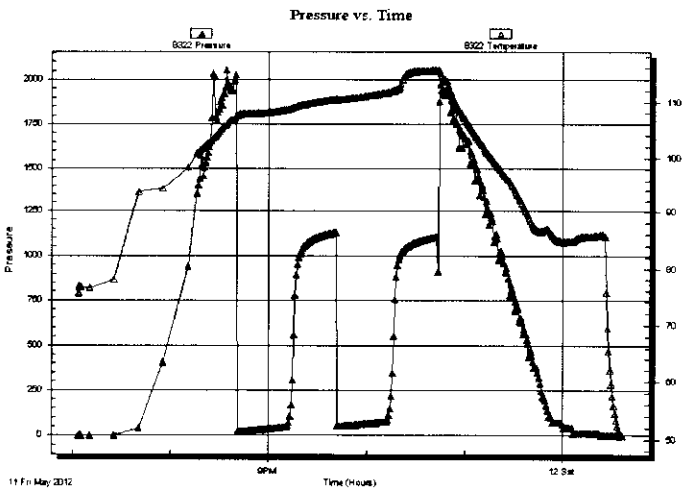
Serial #: 8322

Outside

Press@RunDepth: **psig @ 4087.00 ft (KB)**
Start Date: **2012.05.11** End Date: **2012.05.12**
Start Time: **19:03:45** End Time: **00:36:54**

Capacity: **8000.00 psig**
Last Calib.: **2012.05.12**
Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 1"
IS- No Blow
FF- Weak Surface Blow
FS- No Blow



PRESSURE SUMMARY

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

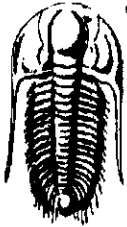
Recovery

Length (ft)	Description	Volume (bbl)
61.00	WGM 1%w 3%g 96%m Skim of Oil on	0.30
61.00	OGCM 2%oil 3%g 95%m	0.30
1.00	Oil	0.00
0.00	63' of GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45879 **DST#: 3**
Test Start: 2012.05.11 @ 19:04:00

Tool Information

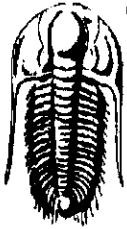
Drill Pipe:	Length: 3944.00 ft	Diameter: 3.80 inches	Volume: 55.32 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 4000.00 lb
			<u>Total Volume: 55.92 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4084.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 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			4058.00	
Shut In Tool	5.00			4063.00	
Hydraulic tool	5.00			4068.00	
Jars	5.00			4073.00	
Safety Joint	2.00			4075.00	
Packer	5.00			4080.00	27.00 Bottom Of Top Packer
Packer	4.00			4084.00	
Stubb	1.00			4085.00	
Perforations	2.00			4087.00	
Recorder	0.00	8652	Inside	4087.00	
Recorder	0.00	8322	Outside	4087.00	
Perforations	20.00			4107.00	
Bullnose	3.00			4110.00	26.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45879 **DST#: 3**
Test Start: 2012.05.11 @ 19:04:00

Mud and Cushion Information

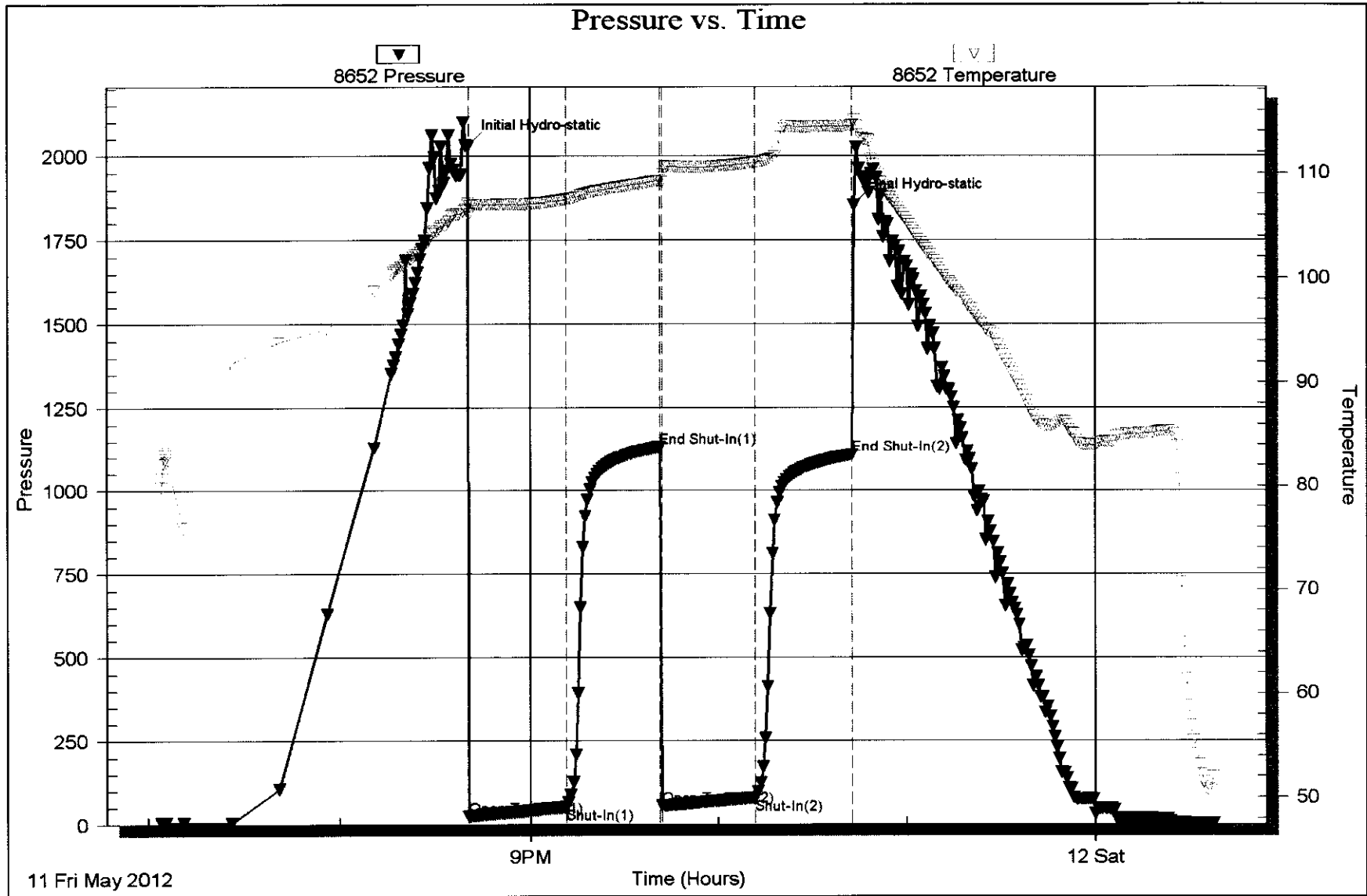
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.12 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2700.00 ppm			
Filter Cake: 1.00 inches			

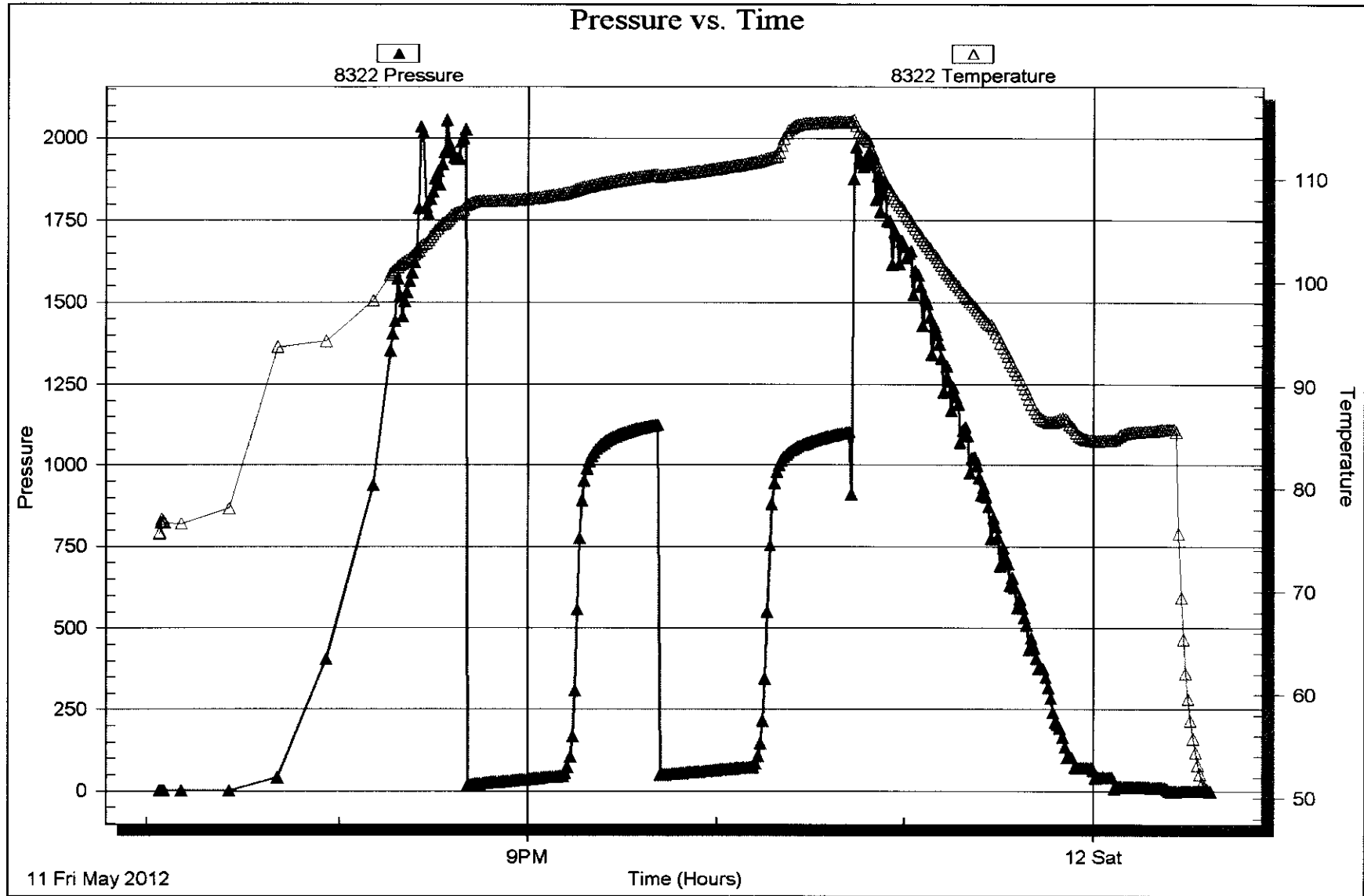
Recovery Information

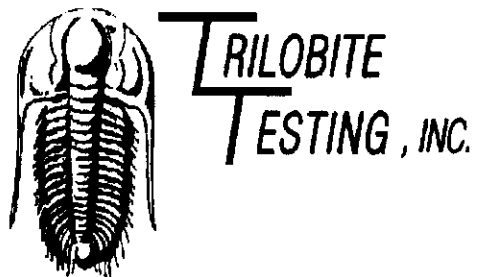
Recovery Table

Length ft	Description	Volume bbl
61.00	WGM 1%w 3%g 96%m Skim of Oil on Top	0.300
61.00	OGCM 2%oil 3%g 95%m	0.300
1.00	Oil	0.005
0.00	63' of GIP	0.000

Total Length: 123.00 ft Total Volume: 0.605 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

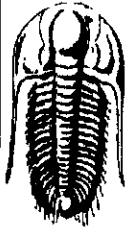
Start Date: 2012.05.12 @ 17:10:00

End Date: 2012.05.13 @ 00:30:39

Job Ticket #: 45880 DST #: 4

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

Printed: 2012.05.17 @ 15:32:11



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 45880

DST#: 4

Test Start: 2012.05.12 @ 17:10:00

GENERAL INFORMATION:

Formation: **Altamont / Pawnee**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 18:57:40

Time Test Ended: 00:30:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: **4252.00 ft (KB) To 4312.00 ft (KB) (TVD)**

Total Depth: 4312.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2816.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 228.17 psig @ 4253.00 ft (KB)

Start Date: 2012.05.12

End Date: 2012.05.13

Capacity: 8000.00 psig

Last Callb.: 2012.05.13

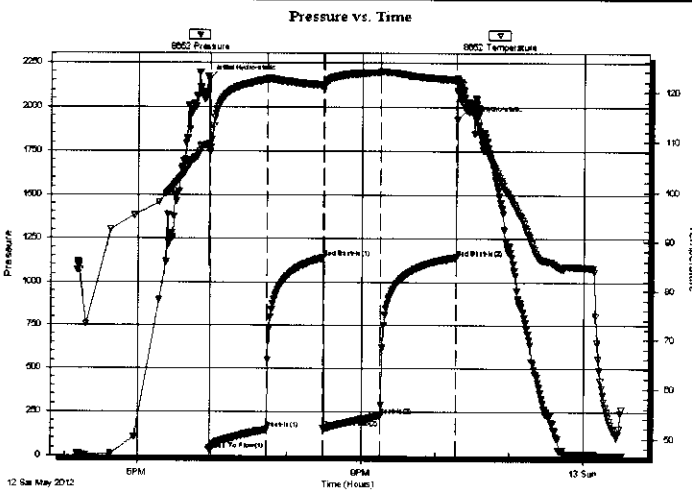
Start Time: 17:10:00

End Time: 00:30:39

Time On Btm: 2012.05.12 @ 18:57:25

Time Off Btm: 2012.05.12 @ 22:17:24

TEST COMMENT: IF- Surface Blow Built to BOB in 17 1/2 min
IS- No Blow
FF- Surface Blow Built to BOB in 35 1/2 min
FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2157.73	109.40	Initial Hydro-static
1	31.83	108.04	Open To Flow (1)
47	149.62	122.44	Shut-In(1)
92	1140.07	121.25	End Shut-In(1)
93	154.40	120.91	Open To Flow (2)
138	228.17	123.94	Shut-In(2)
200	1142.82	122.41	End Shut-In(2)
200	1926.85	122.73	Final Hydro-static

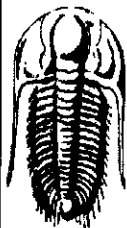
Recovery

Length (ft)	Description	Volume (bbl)
123.00	MCW 5% m 95% w	0.60
252.00	MCW 8% m 92% w	3.53
78.00	MCW 33% m 67% w	1.09

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS

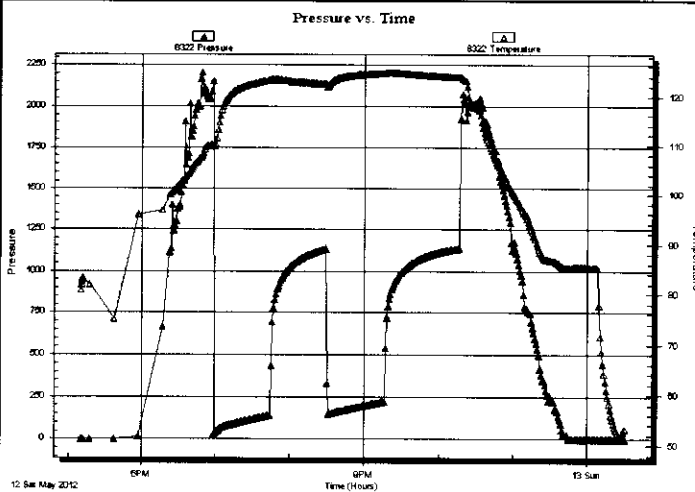
Knopp #4
Job Ticket: 45880 **DST#: 4**
Test Start: 2012.05.12 @ 17:10:00

GENERAL INFORMATION:

Formation: **Altamont / Pawnee**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 18:57:40
Time Test Ended: 00:30:39
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 40
Interval: **4252.00 ft (KB) To 4312.00 ft (KB) (TVD)**
Reference Elevations: 2821.00 ft (KB)
Total Depth: 4312.00 ft (KB) (TVD) 2816.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8322 Outside
Press@RunDepth: psig @ 4253.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.05.12 End Date: 2012.05.13 Last Calib.: 2012.05.13
Start Time: 17:10:05 End Time: 00:30:59 Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Surface Blow Built to BOB in 17 1/2 min
IS- No Blow
FF- Surface Blow Built to BOB in 35 1/2 min
FSI- No Blow



PRESSURE SUMMARY

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

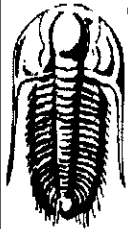
Recovery

Length (ft)	Description	Volume (bbl)
123.00	MCW 5%m 95%w	0.60
252.00	MCW 8%m 92%w	3.53
78.00	MCW 33%m 67%w	1.09

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources

13-14s-32w Logan, KS

80 Windmill Dr
Phillipsburg KS 67661

Knopp #4

Job Ticket: 45880

DST#: 4

ATTN: Steve Murphy

Test Start: 2012.05.12 @ 17:10:00

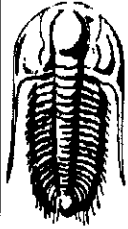
Tool Information

Drill Pipe:	Length: 4128.00 ft	Diameter: 3.80 inches	Volume: 57.90 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 12000.00 lb
			<u>Total Volume: 58.50 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4252.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	87.00 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			4226.00	
Shut In Tool	5.00			4231.00	
Hydraulic tool	5.00			4236.00	
Jars	5.00			4241.00	
Safety Joint	2.00			4243.00	
Packer	5.00			4248.00	27.00 Bottom Of Top Packer
Packer	4.00			4252.00	
Stubb	1.00			4253.00	
Recorder	0.00	8652	Inside	4253.00	
Recorder	0.00	8322	Outside	4253.00	
Perforations	20.00			4273.00	
Change Over Sub	1.00			4274.00	
Drill Pipe	31.00			4305.00	
Change Over Sub	1.00			4306.00	
Perforations	3.00			4309.00	
Bullnose	3.00			4312.00	60.00 Bottom Packers & Anchor
Total Tool Length:	87.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45880 **DST#: 4**
Test Start: 2012.05.12 @ 17:10:00

Mud and Cushion Information

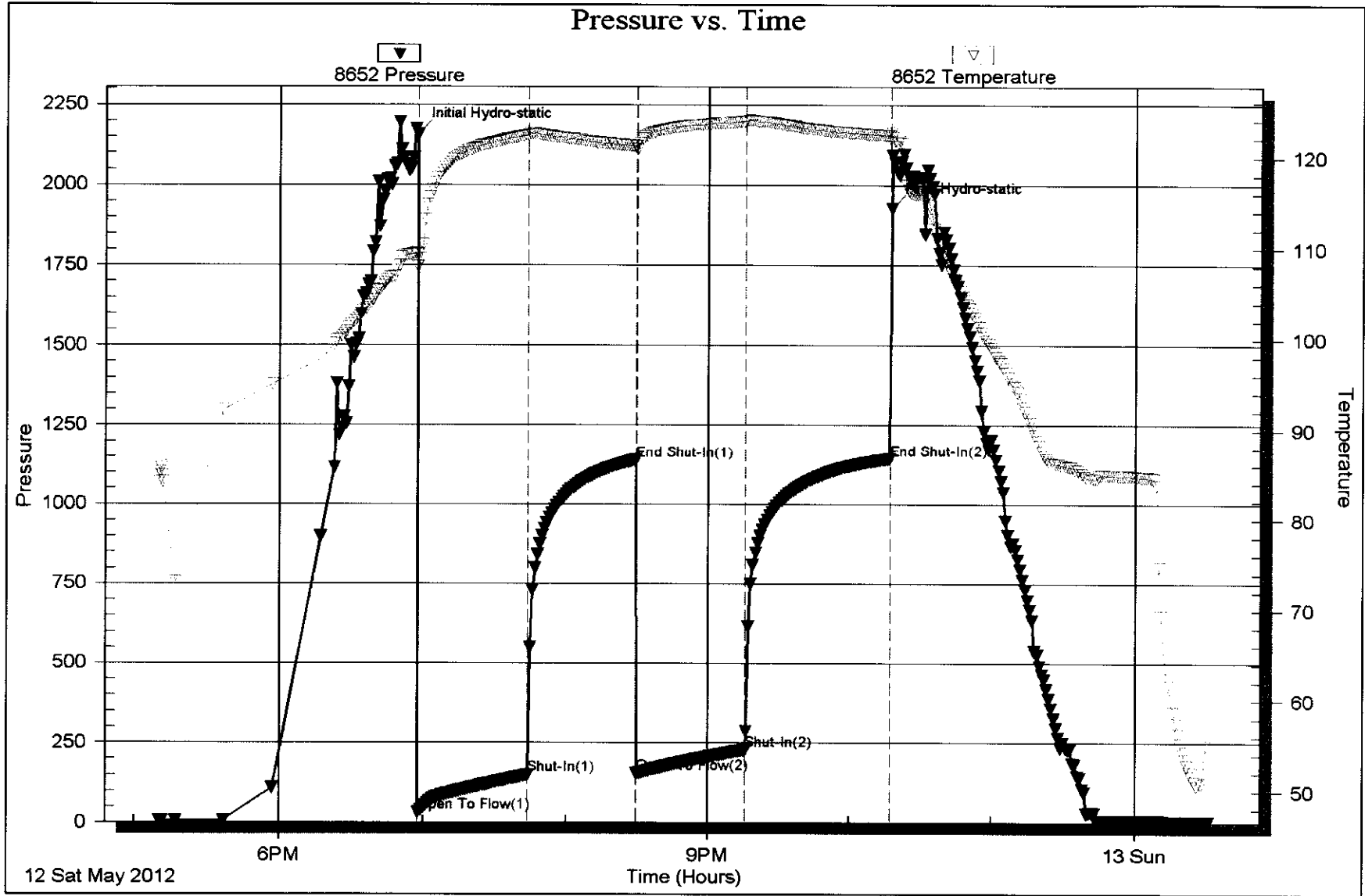
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 24000 ppm	
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.30 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2900.00 ppm			
Filter Cake: 1.00 inches			

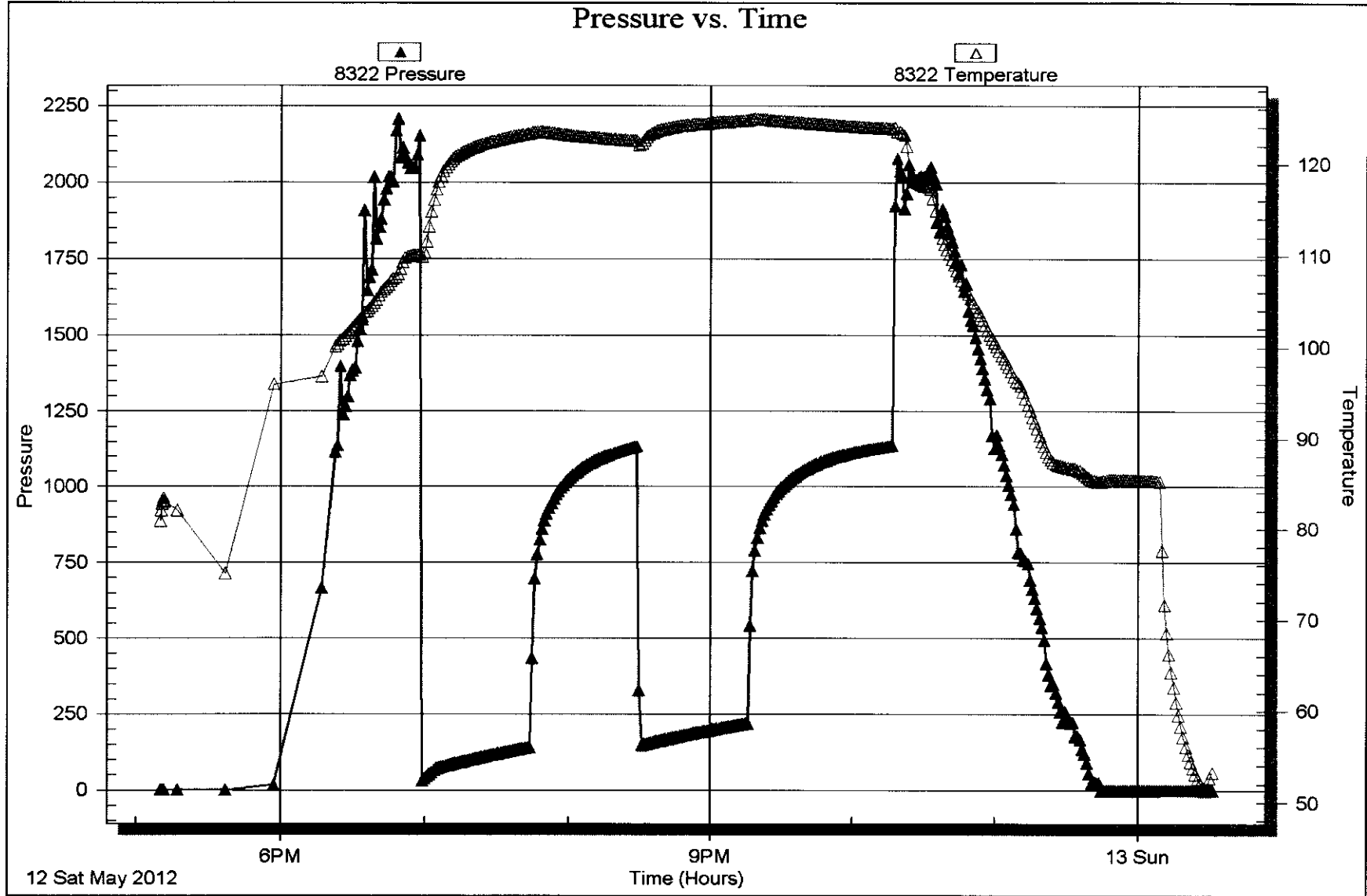
Recovery Information

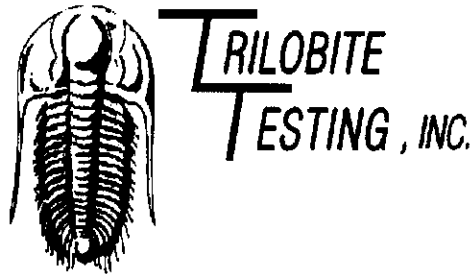
Recovery Table

Length ft	Description	Volume bbl
123.00	MCW 5%m 95%w	0.605
252.00	MCW 8%m 92%w	3.535
78.00	MCW 33%m 67%w	1.094

Total Length: 453.00 ft Total Volume: 5.234 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: RW is .346 @ 56f = 24000







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.13 @ 08:08:00

End Date: 2012.05.13 @ 13:39:24

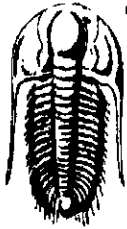
Job Ticket #: 45881 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.17 @ 15:31:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr
 Phillipsburg KS 67661
 ATTN: Steve Murphy

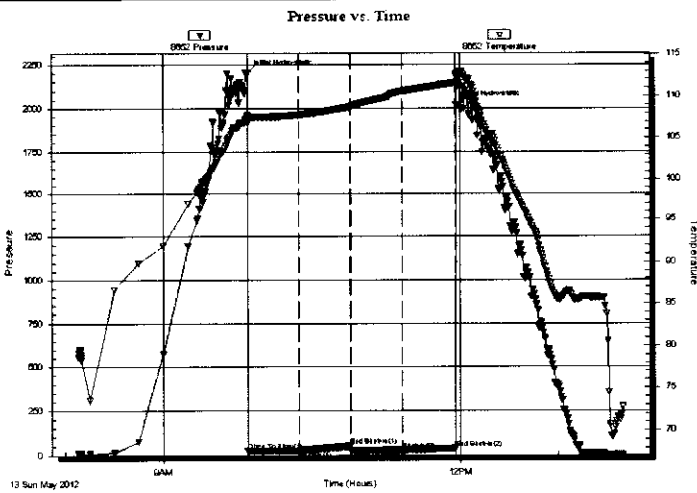
13-14s-32w Logan,KS
Knopp #4
 Job Ticket: 45881 **DST#: 5**
 Test Start: 2012.05.13 @ 08:08:00

GENERAL INFORMATION:

Formation: **Myric Station**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 09:51:40
 Time Test Ended: 13:39:24
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 40
 Interval: **4320.00 ft (KB) To 4346.00 ft (KB) (TVD)**
 Total Depth: 4346.00 ft (KB) (TVD)
 Reference Elevations: 2821.00 ft (KB)
 2816.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 5.00 ft

Serial #: 8652 Inside
 Press@RunDepth: 28.42 psig @ 4323.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.05.13 End Date: 2012.05.13 Last Calib.: 2012.05.13
 Start Time: 08:08:00 End Time: 13:39:24 Time On Btm: 2012.05.13 @ 09:51:25
 Time Off Btm: 2012.05.13 @ 11:57:40

TEST COMMENT: IF- Weak Surface Blow
 IS- No Blow
 FF- No Blow
 FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.84	107.70	Initial Hydro-static
1	24.09	106.88	Open To Flow (1)
32	27.08	107.76	Shut-In(1)
62	51.29	108.71	End Shut-In(1)
63	26.91	108.78	Open To Flow (2)
94	28.42	110.58	Shut-In(2)
126	39.06	111.61	End Shut-In(2)
127	2021.61	112.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 2%oil 98% m	0.02

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

13-14s-32w Logan, KS

Knopp #4
Job Ticket: 45881 **DST#: 5**
Test Start: 2012.05.13 @ 08:08:00

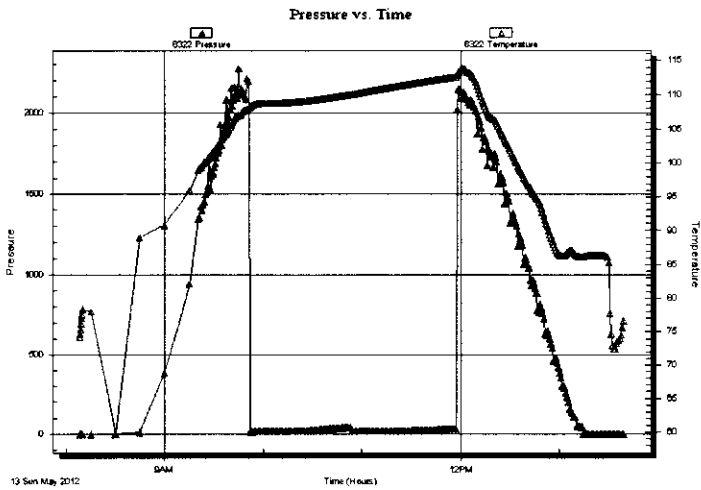
GENERAL INFORMATION:

Formation: **Myric Station**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 09:51:40
Time Test Ended: 13:39:24
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 40

Interval: **4320.00 ft (KB) To 4346.00 ft (KB) (TVD)**
Total Depth: 4346.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2821.00 ft (KB)
2816.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8322 Outside
Press@RunDepth: psig @ 4323.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.05.13 End Date: 2012.05.13 Last Calib.: 2012.05.13
Start Time: 08:08:05 End Time: 13:39:44 Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow
IS- No Blow
FF- No Blow
FSI- No Blow



PRESSURE SUMMARY

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

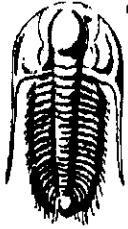
Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 2%oil 98%m	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45881 **DST#: 5**
Test Start: 2012.05.13 @ 08:08:00

Tool Information

Drill Pipe:	Length: 4191.00 ft	Diameter: 3.80 inches	Volume: 58.79 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 6000.00 lb
			<u>Total Volume: 59.39 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4320.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 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			4294.00	
Shut In Tool	5.00			4299.00	
Hydraulic tool	5.00			4304.00	
Jars	5.00			4309.00	
Safety Joint	2.00			4311.00	
Packer	5.00			4316.00	27.00 Bottom Of Top Packer
Packer	4.00			4320.00	
Stubb	1.00			4321.00	
Perforations	2.00			4323.00	
Recorder	0.00	8652	Inside	4323.00	
Recorder	0.00	8322	Outside	4323.00	
Perforations	20.00			4343.00	
Bullnose	3.00			4346.00	26.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45881 **DST#: 5**
Test Start: 2012.05.13 @ 08:08:00

Mud and Cushion Information

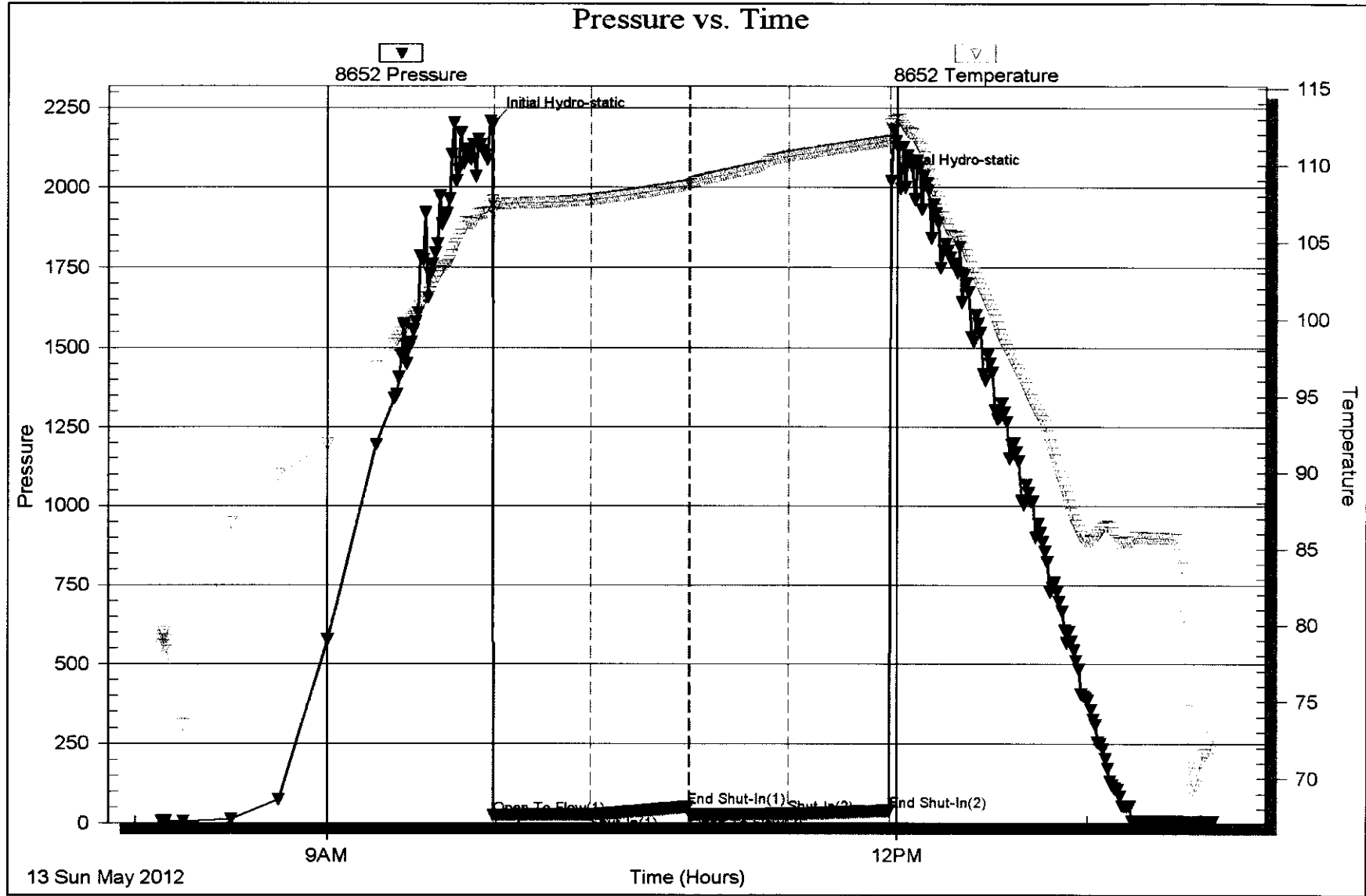
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.31 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2900.00 ppm			
Filter Cake: 1.00 inches			

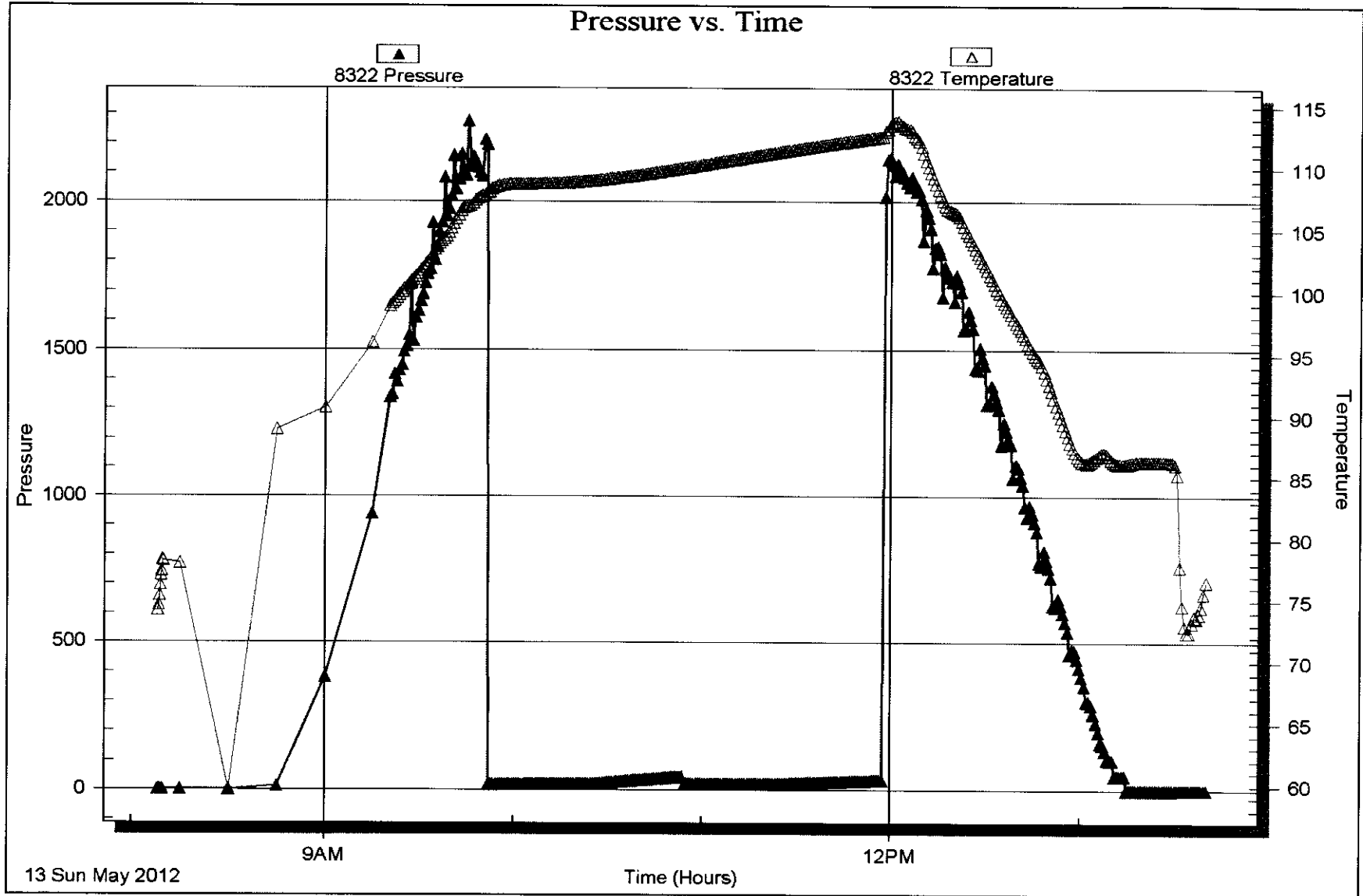
Recovery Information

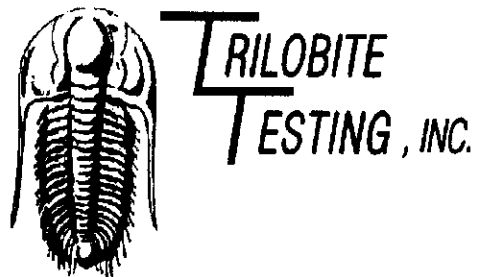
Recovery Table

Length ft	Description	Volume bbl
5.00	OCM 2%oil 98%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.13 @ 20:28:00

End Date: 2012.05.14 @ 01:00:54

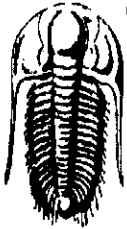
Job Ticket #: 45882 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr
 Phillipsburg KS 67661
 ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 45882

DST#: 6

Test Start: 2012.05.13 @ 20:28:00

GENERAL INFORMATION:

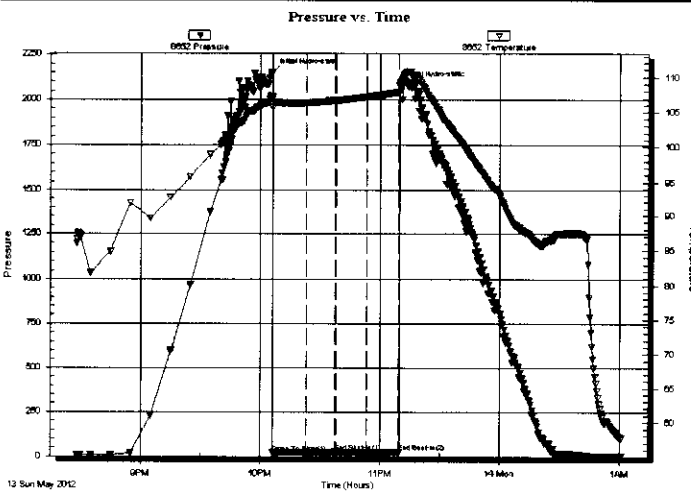
Formation: **Ft. Scott**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 22:06:25
 Time Test Ended: 01:00:54
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 40
 Interval: **4346.00 ft (KB) To 4376.00 ft (KB) (TVD)**
 Total Depth: 4376.00 ft (KB) (TVD)
 Reference Elevations: 2821.00 ft (KB)
 2816.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 23.60 psig @ 4348.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.05.13 End Date: 2012.05.14 Last Calib.: 2012.05.14
 Start Time: 20:28:00 End Time: 01:00:54 Time On Btm: 2012.05.13 @ 22:06:10
 Time Off Btm: 2012.05.13 @ 23:09:55

TEST COMMENT: IF- Weak Surface Blow Died in 4 min Flushed Tool in Second Open
 IS- No Blow
 FF- No Blow
 FSI- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2150.33	107.11	Initial Hydro-static
1	22.39	105.65	Open To Flow (1)
17	23.60	106.34	Shut-In(1)
32	27.17	106.67	End Shut-In(1)
32	23.97	106.67	Open To Flow (2)
47	23.60	107.19	Shut-In(2)
64	26.10	107.84	End Shut-In(2)
64	2082.34	108.83	Final Hydro-static

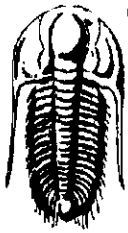
Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% mud with Few Oil Spots	0.01

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan, KS

Knopp #4

Job Ticket: 45882 **DST#: 6**
Test Start: 2012.05.13 @ 20:28:00

GENERAL INFORMATION:

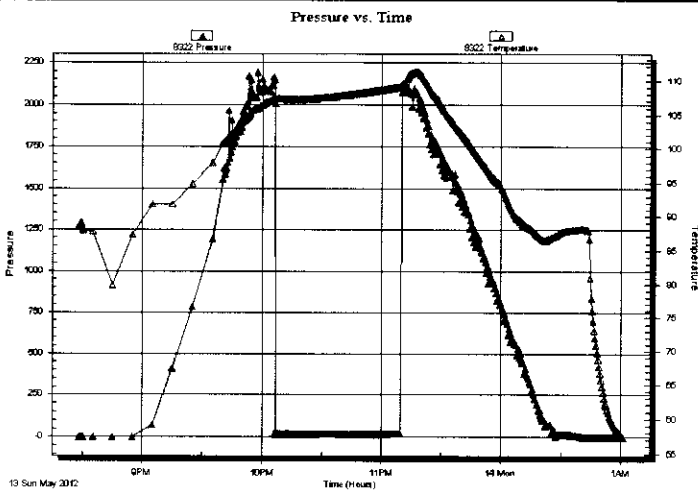
Formation: **Ft. Scott**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 22:06:25
Time Test Ended: 01:00:54
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 40
Interval: **4346.00 ft (KB) To 4376.00 ft (KB) (TVD)**
Reference Elevations: 2821.00 ft (KB)
Total Depth: 4376.00 ft (KB) (TVD)
2816.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 5.00 ft

Serial #: 8322

Outside

Press@RunDepth: psig @ 4348.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.05.13 End Date: 2012.05.14 Last Calib.: 2012.05.14
Start Time: 20:28:05 End Time: 01:01:14 Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Died in 4 min Flushed Tool in Second Open
ISI- No Blow
FF- No Blow
FSI- No Blow



PRESSURE SUMMARY

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

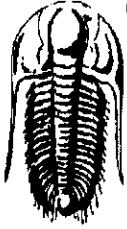
Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% mud with Few Oil Spots	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45882 **DST#: 6**
Test Start: 2012.05.13 @ 20:28:00

Tool Information

Drill Pipe:	Length: 4222.00 ft	Diameter: 3.80 inches	Volume: 59.22 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 16000.00 lb
			<u>Total Volume: 59.82 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4346.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.00 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			4320.00	
Shut In Tool	5.00			4325.00	
Hydraulic tool	5.00			4330.00	
Jars	5.00			4335.00	
Safety Joint	2.00			4337.00	
Packer	5.00			4342.00	27.00 Bottom Of Top Packer
Packer	4.00			4346.00	
Stubb	1.00			4347.00	
Perforations	1.00			4348.00	
Recorder	0.00	8652	Inside	4348.00	
Recorder	0.00	8322	Outside	4348.00	
Perforations	25.00			4373.00	
Bullnose	3.00			4376.00	30.00 Bottom Packers & Anchor

Total Tool Length: 57.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45882 **DST#: 6**
Test Start: 2012.05.13 @ 20:28:00

Mud and Cushion Information

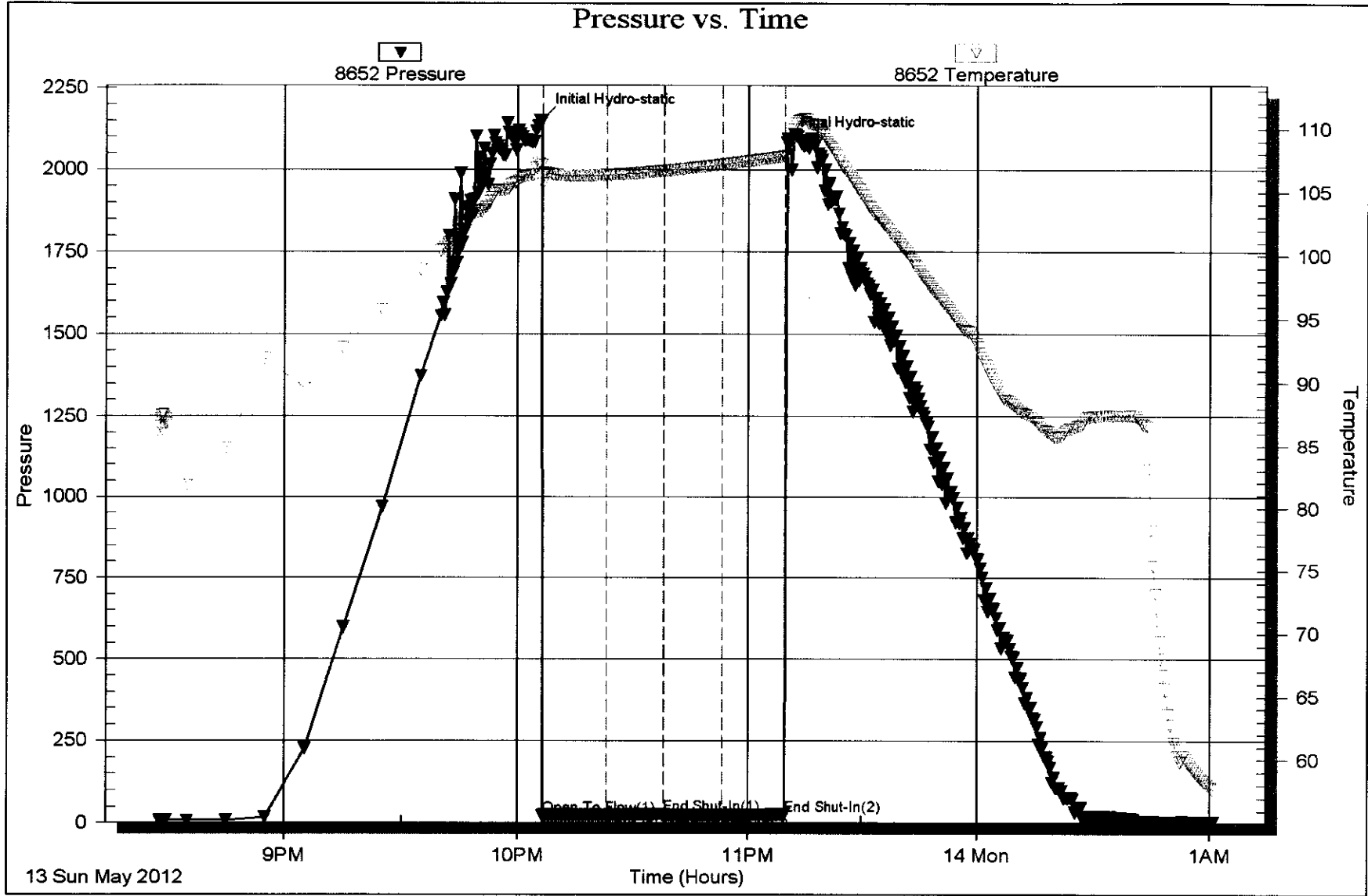
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.94 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3700.00 ppm			
Filter Cake: 1.00 inches			

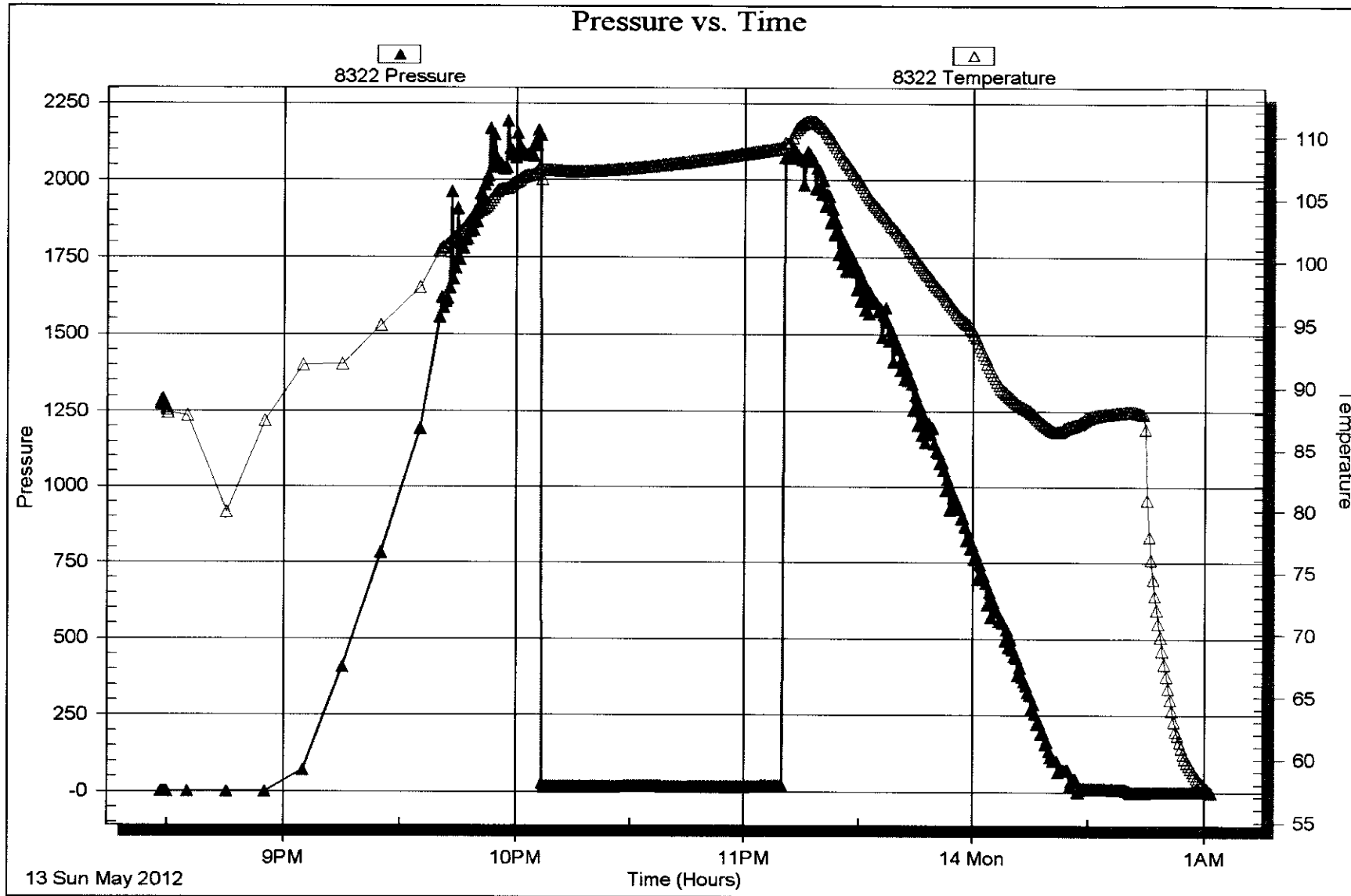
Recovery Information

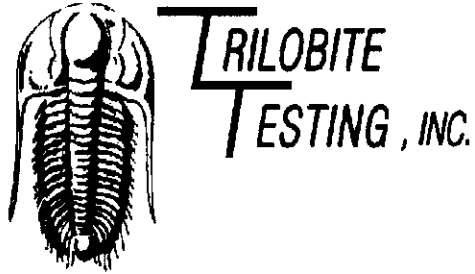
Recovery Table

Length ft	Description	Volume bbl
2.00	100% mud with Few Oil Spots	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.14 @ 07:56:00

End Date: 2012.05.14 @ 13:31:39

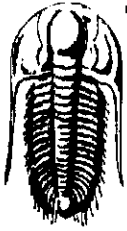
Job Ticket #: 45883 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.17 @ 15:25:25



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr
 Phillipsburg KS 67661
 ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
 Job Ticket: 45883 **DST#: 7**
 Test Start: 2012.05.14 @ 07:56:00

GENERAL INFORMATION:

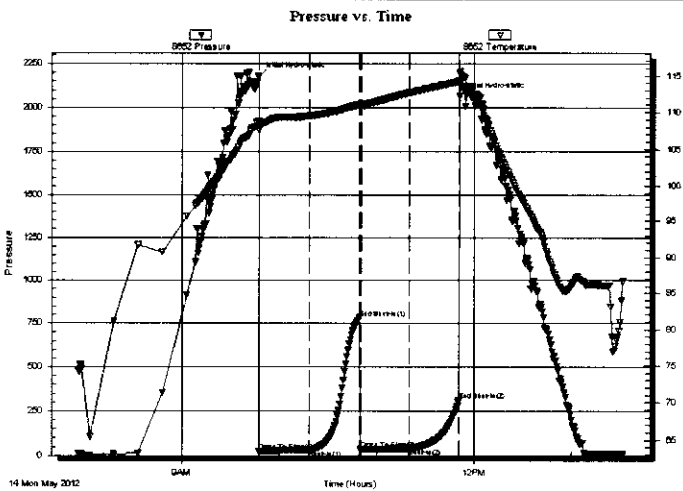
Formation: **Cherokee Lime**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 09:47:25
 Time Test Ended: 13:31:39
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 40
 Interval: **4382.00 ft (KB) To 4406.00 ft (KB) (TVD)**
 Total Depth: 4406.00 ft (KB) (TVD)
 Reference Elevations: 2821.00 ft (KB)
 2816.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 40.38 psig @ 4383.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.05.14 End Date: 2012.05.14 Last Calib.: 2012.05.14
 Start Time: 07:56:00 End Time: 13:31:39 Time On Btm: 2012.05.14 @ 09:47:10
 Time Off Btm: 2012.05.14 @ 11:51:10

TEST COMMENT: IF- Weak Surface Blow Built to 3/4
 IS- No Blow
 FF- No Blow
 FSI- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2177.96	108.89	Initial Hydro-static
1	26.02	107.57	Open To Flow (1)
31	32.84	109.53	Shut-In(1)
62	780.76	111.07	End Shut-In(1)
63	36.22	111.02	Open To Flow (2)
93	40.38	112.70	Shut-In(2)
124	308.86	114.26	End Shut-In(2)
124	2065.15	115.30	Final Hydro-static

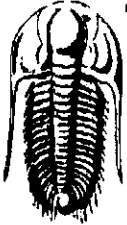
Recovery

Length (ft)	Description	Volume (bbl)
8.00	100% m with Oil Spots	0.04

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

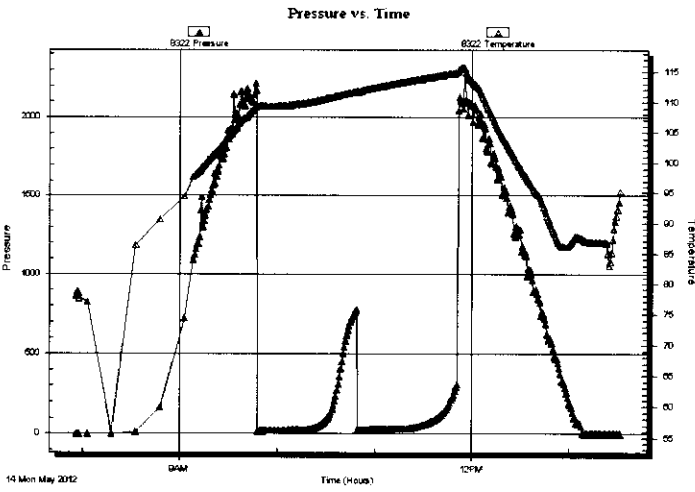
13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45883 **DST#: 7**
Test Start: 2012.05.14 @ 07:56:00

GENERAL INFORMATION:

Formation: **Cherokee Lime**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 09:47:25
Time Test Ended: 13:31:39
Test Type: Conventional Bottom Hole (Reset)
Tester: Will MacLean
Unit No: 40
Interval: **4382.00 ft (KB) To 4406.00 ft (KB) (TVD)**
Reference Elevations: 2821.00 ft (KB)
Total Depth: 4406.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 5.00 ft

Serial #: 8322 Outside
Press@RunDepth: psig @ 4383.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.05.14 End Date: 2012.05.14 Last Calib.: 2012.05.14
Start Time: 07:55:45 End Time: 13:31:39 Time On Btm:
Time Off Btm:

TEST COMMENT: IF- Weak Surface Blow Built to 3/4
IS- No Blow
FF- No Blow
FSI- No Blow

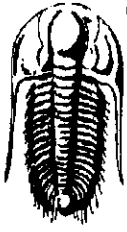


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
8.00	100% m with Oil Spots	0.04

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45883 **DST#: 7**
Test Start: 2012.05.14 @ 07:56:00

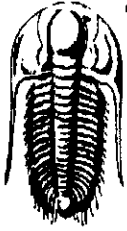
Tool Information

Drill Pipe:	Length: 4254.00 ft	Diameter: 3.80 inches	Volume: 59.67 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 12000.00 lb
			<u>Total Volume: 60.27 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4382.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	51.00 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			4356.00	
Shut In Tool	5.00			4361.00	
Hydraulic tool	5.00			4366.00	
Jars	5.00			4371.00	
Safety Joint	2.00			4373.00	
Packer	5.00			4378.00	27.00 Bottom Of Top Packer
Packer	4.00			4382.00	
Stubb	1.00			4383.00	
Recorder	0.00	8652	Inside	4383.00	
Recorder	0.00	8322	Outside	4383.00	
Perforations	20.00			4403.00	
Bullnose	3.00			4406.00	24.00 Bottom Packers & Anchor

Total Tool Length: 51.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45883 **DST#: 7**
Test Start: 2012.05.14 @ 07:56:00

Mud and Cushion Information

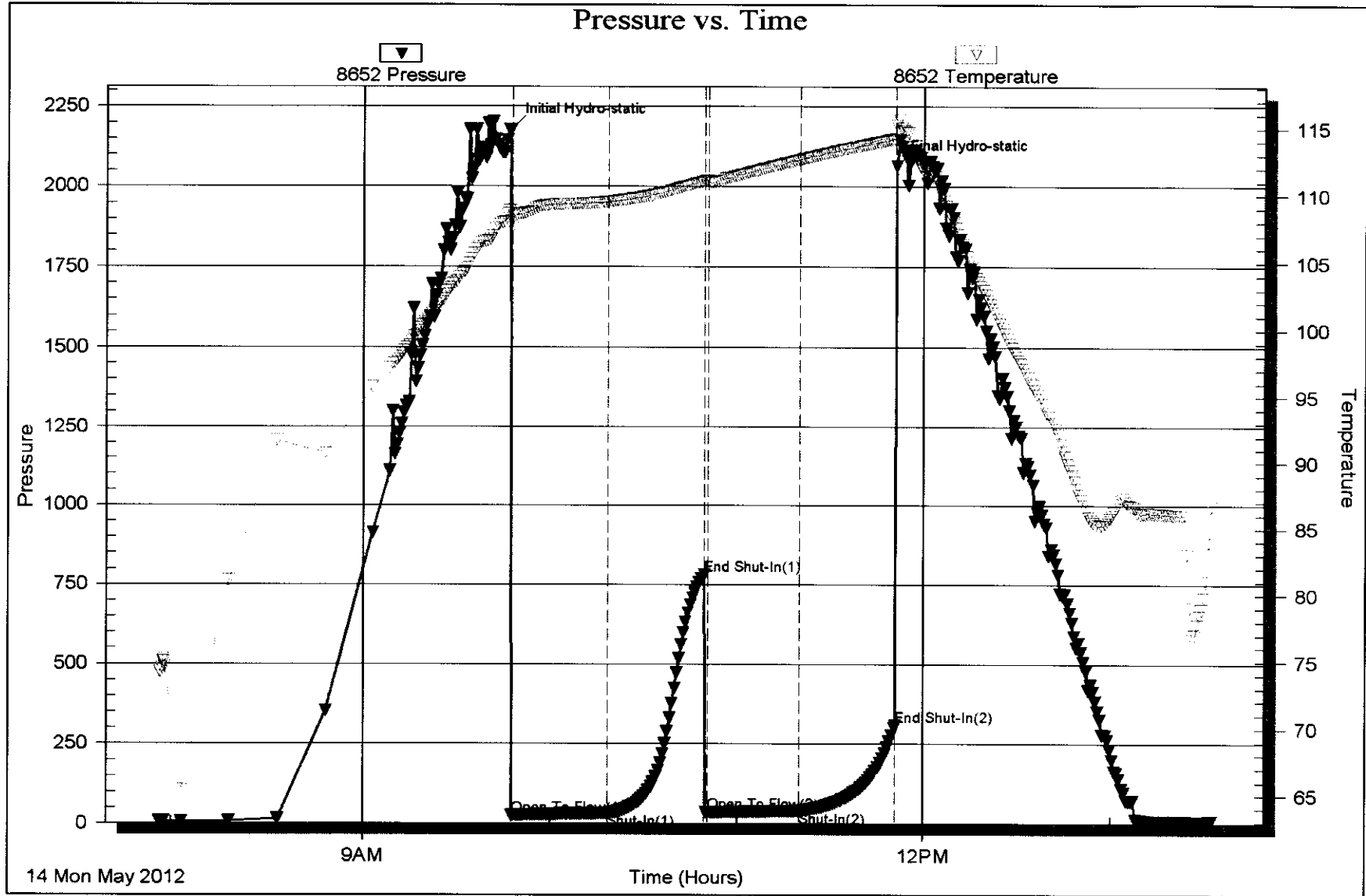
Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	49.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.93 in ³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3700.00 ppm				
Filter Cake:	1.00 inches				

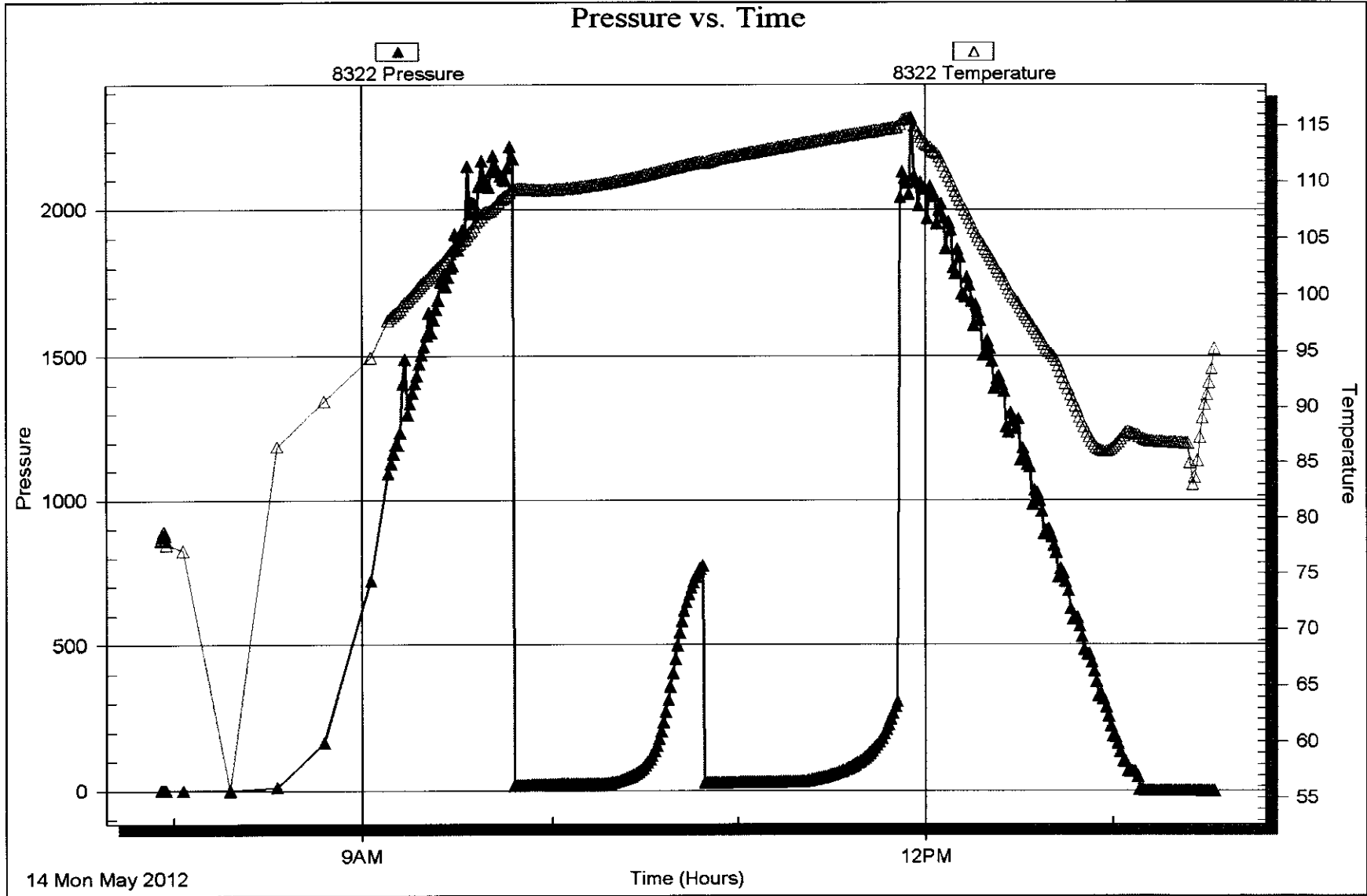
Recovery Information

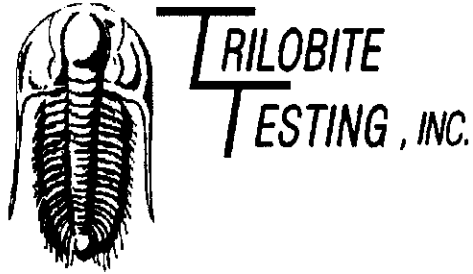
Recovery Table

Length ft	Description	Volume bbl
8.00	100% m with Oil Spots	0.039

Total Length: 8.00 ft Total Volume: 0.039 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.14 @ 20:34:05

End Date: 2012.05.15 @ 03:15:44

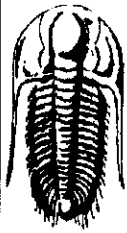
Job Ticket #: 45884 DST #: 8

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.17 @ 15:17:35



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr
 Phillipsburg KS 67661
 ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 45884

DST#: 8

Test Start: 2012.05.14 @ 20:34:05

GENERAL INFORMATION:

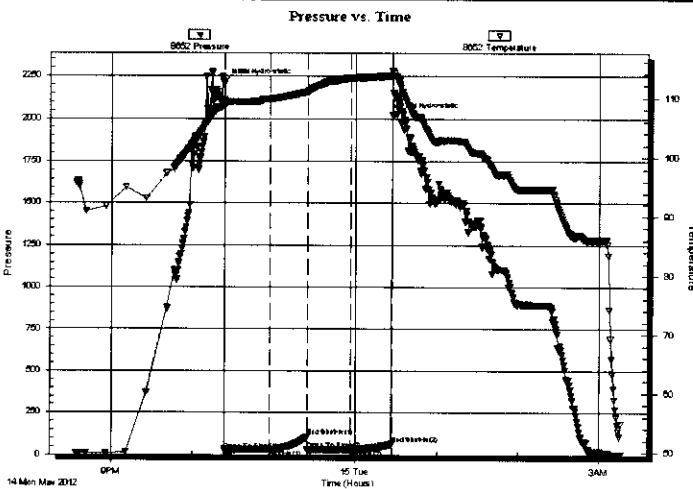
Formation: **Johnson**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 22:23:30
 Time Test Ended: 03:15:44
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Will MacLean
 Unit No: 40
 Interval: **4402.00 ft (KB) To 4440.00 ft (KB) (TVD)**
 Reference Elevations: 2821.00 ft (KB)
 Total Depth: 4440.00 ft (KB) (TVD)
 2816.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 5.00 ft

Serial #: 8652

Inside

Press@RunDepth: 32.62 psig @ 4405.00 ft (KB)
 Start Date: 2012.05.14 End Date: 2012.05.15
 Start Time: 20:34:05 End Time: 03:15:44
 Capacity: 8000.00 psig
 Last Calib.: 2012.05.15
 Time On Btm: 2012.05.14 @ 22:23:15
 Time Off Btm: 2012.05.15 @ 00:27:00

TEST COMMENT: IF- Weak Surface Blow Died in 24 min
 IS- No Blow
 FF- No Blow
 FS- No Blow



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.72	109.62	Initial Hydro-static
1	28.97	108.77	Open To Flow (1)
33	31.31	109.83	Shut-In(1)
61	108.68	110.97	End Shut-In(1)
62	30.34	110.93	Open To Flow (2)
93	32.62	113.34	Shut-In(2)
124	64.06	113.74	End Shut-In(2)
124	2016.37	114.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

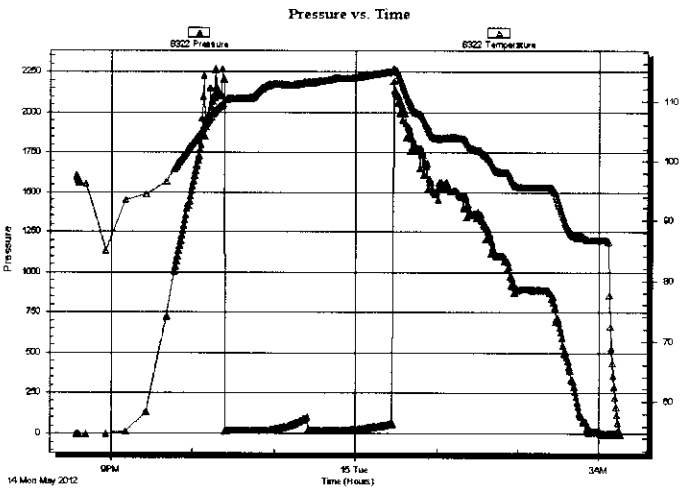
13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45884 **DST#: 8**
Test Start: 2012.05.14 @ 20:34:05

GENERAL INFORMATION:

Formation:	Johnson			Test Type:	Conventional Bottom Hole (Reset)
Deviated:	No Whipstock:	0.00 ft (KB)		Tester:	Will MacLean
Time Tool Opened:	22:23:30			Unit No:	40
Time Test Ended:	03:15:44			Reference Elevations:	2821.00 ft (KB)
Interval:	4402.00 ft (KB) To 4440.00 ft (KB) (TVD)				2816.00 ft (CF)
Total Depth:	4440.00 ft (KB) (TVD)			KB to GR/CF:	5.00 ft
Hole Diameter:	7.88 inches		Hole Condition:	Good	

Serial #: 8322	Outside			Capacity:	8000.00 psig
Press@RunDepth:	psig @	4405.00 ft (KB)		Last Calib.:	2012.05.15
Start Date:	2012.05.14	End Date:	2012.05.15	Time On Btm:	
Start Time:	20:34:05	End Time:	03:15:59	Time Off Btm:	

TEST COMMENT: IF- Weak Surface Blow Died in 24 min
IS- No Blow
FF- No Blow
FS- No Blow



PRESSURE SUMMARY

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

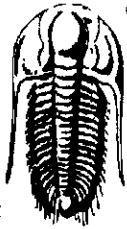
Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 45884 **DST#: 8**
Test Start: 2012.05.14 @ 20:34:05

Tool Information

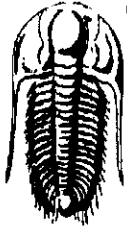
Drill Pipe:	Length: 4255.00 ft	Diameter: 3.80 inches	Volume: 59.69 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 60.29 bbl</u>	Tool Chased: ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4402.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	65.00 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			4376.00	
Shut In Tool	5.00			4381.00	
Hydraulic tool	5.00			4386.00	
Jars	5.00			4391.00	
Safety Joint	2.00			4393.00	
Packer	5.00			4398.00	27.00 Bottom Of Top Packer
Packer	4.00			4402.00	
Stubb	1.00			4403.00	
Perforations	2.00			4405.00	
Recorder	0.00	8652	Inside	4405.00	
Recorder	0.00	8322	Outside	4405.00	
Perforations	32.00			4437.00	
Bullnose	3.00			4440.00	38.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan, KS
Knopp #4
Job Ticket: 45884 **DST#: 8**
Test Start: 2012.05.14 @ 20:34:05

Mud and Cushion Information

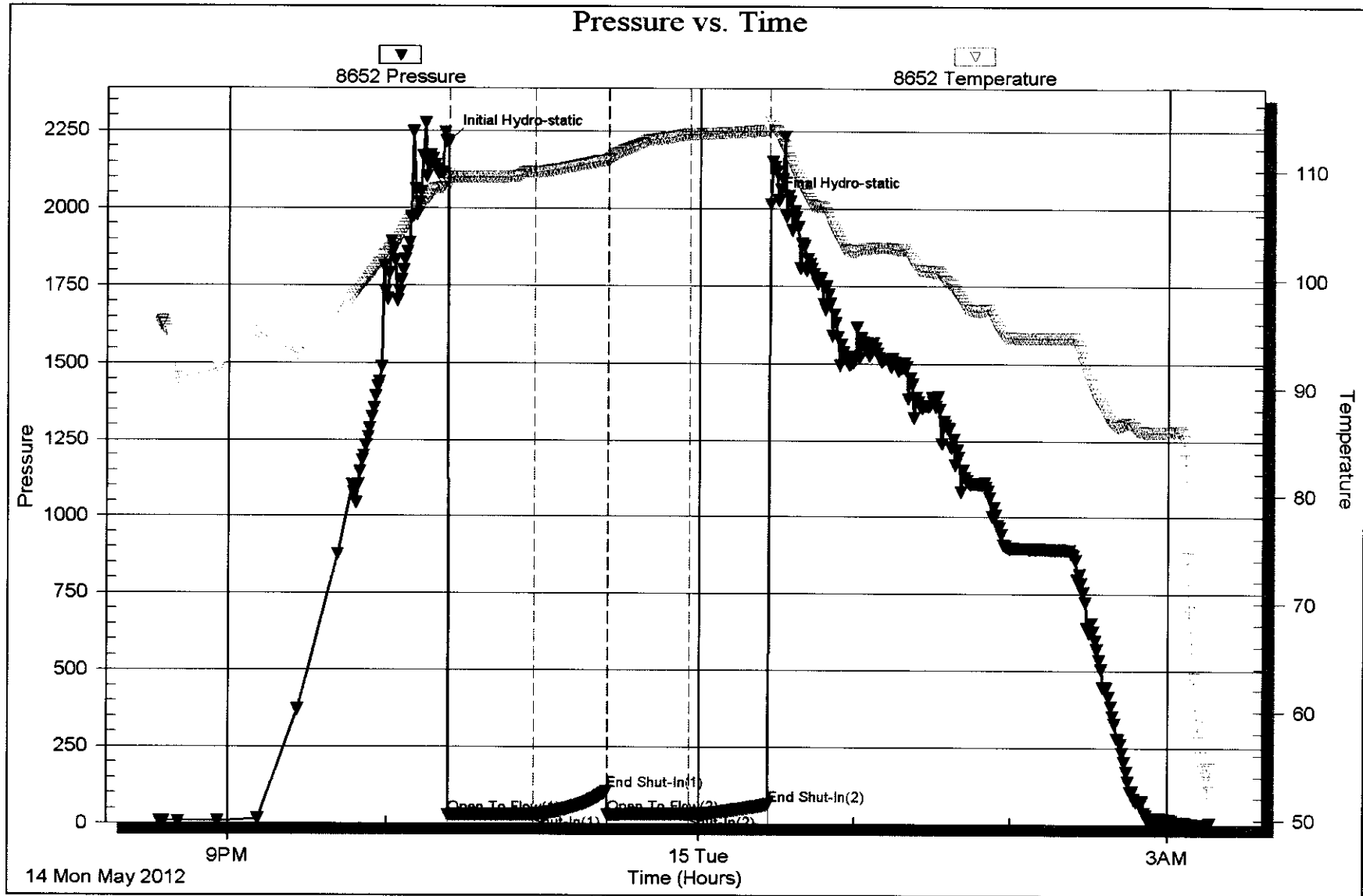
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4200.00 ppm			
Filter Cake: 1.00 inches			

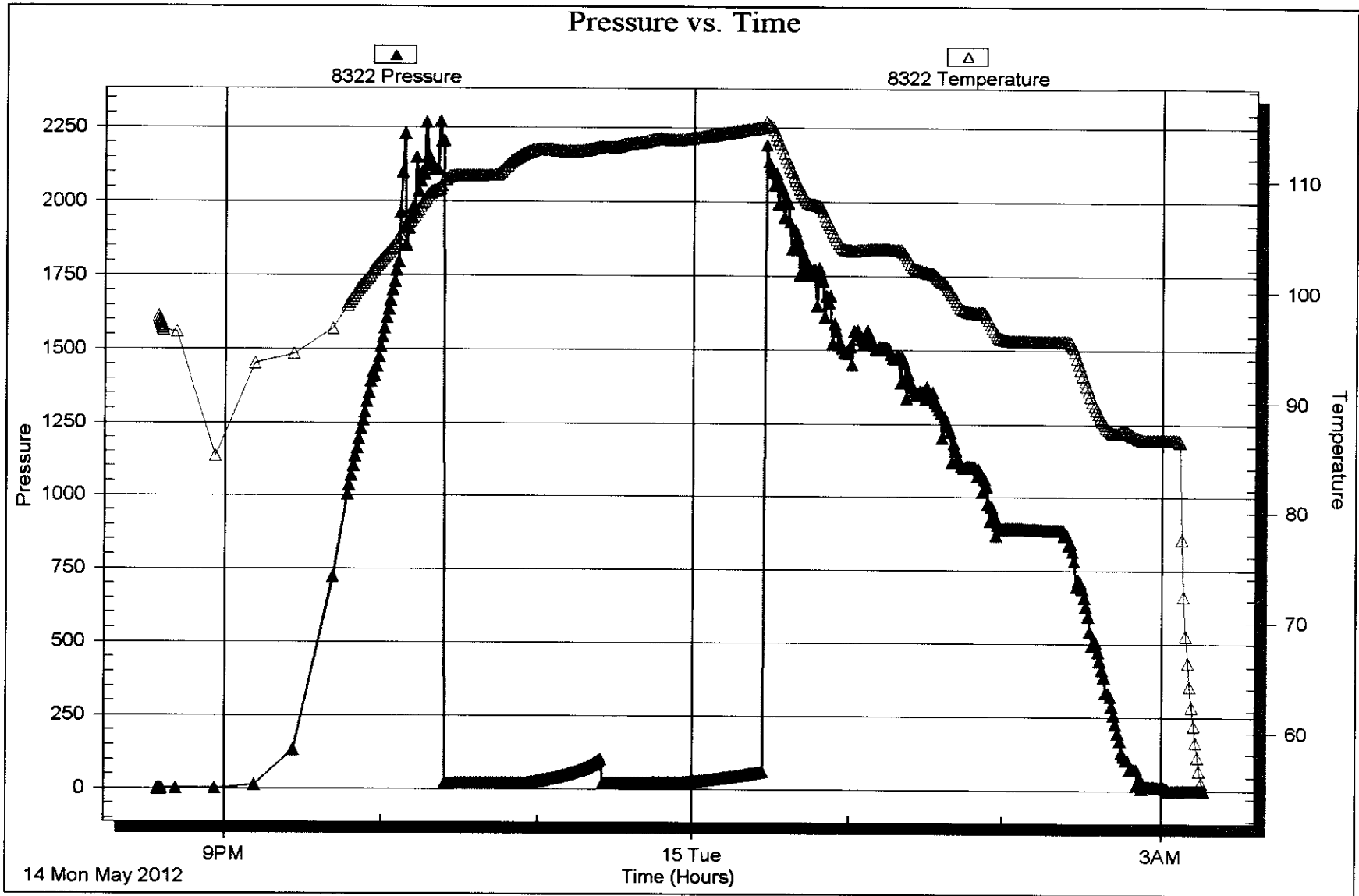
Recovery Information

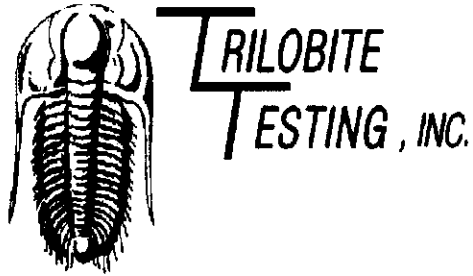
Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr
Phillipsburg KS 67661

ATTN: Steve Murphy

Knopp #4

13-14s-32w Logan,KS

Start Date: 2012.05.15 @ 12:40:02

End Date: 2012.05.15 @ 20:40:30

Job Ticket #: 46588 DST #: 9

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

Printed: 2012.05.17 @ 15:16:20



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 46588

DST#: 9

Test Start: 2012.05.15 @ 12:40:02

GENERAL INFORMATION:

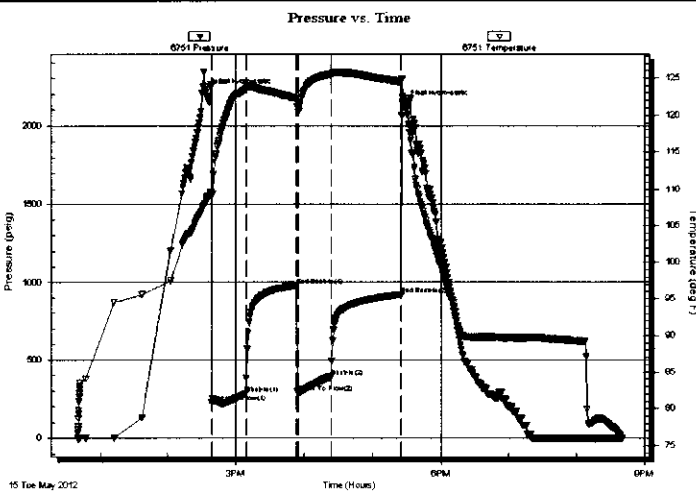
Formation: **morrow sst**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 14:38:40
 Time Test Ended: 20:40:30
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Cole Archibald
 Unit No: 40
 Interval: **4442.00 ft (KB) To 4500.00 ft (KB) (TVD)**
 Total Depth: 4500.00 ft (KB) (TVD)
 Reference Elevations: 2821.00 ft (KB)
 2816.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 6751

Inside

Press@RunDepth: 392.81 psig @ 4443.00 ft (KB)
 Start Date: 2012.05.15 End Date: 2012.05.15
 Start Time: 12:40:00 End Time: 20:40:28
 Capacity: 8000.00 psig
 Last Calib.: 2012.05.15
 Time On Btm: 2012.05.15 @ 14:33:18
 Time Off Btm: 2012.05.15 @ 17:26:48

TEST COMMENT: IF- BOB 4 min
 IS- BOB 7 min
 FF- BOB 4 min
 FS- BOB 5 min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2209.22	108.63	Initial Hydro-static
6	223.28	109.28	Open To Flow (1)
36	282.70	123.42	Shut-In(1)
81	981.23	122.23	End Shut-In(1)
82	286.93	120.52	Open To Flow (2)
111	392.81	125.51	Shut-In(2)
172	917.90	124.52	End Shut-In(2)
174	2136.00	122.31	Final Hydro-static

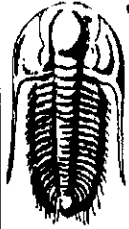
Recovery

Length (ft)	Description	Volume (bbl)
252.00	MGO 10 m 30 g 60 o	2.41
189.00	GO 30 G 70 o	2.65
252.00	mco 90 o 10 m	3.53
189.00	mog 10 m 40 o 50 g	2.65
262.00	o 100 o	3.68
0.00	2669 gip	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS

Knopp #4

Job Ticket: 46588

DST#: 9

Test Start: 2012.05.15 @ 12:40:02

GENERAL INFORMATION:

Formation: **morrow sst**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 14:38:40

Time Test Ended: 20:40:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cole Archibald

Unit No: 40

Interval: **4442.00 ft (KB) To 4500.00 ft (KB) (TVD)**

Total Depth: 4500.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2821.00 ft (KB)

2816.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8018 Outside

Press@RunDepth: psig @ 4443.00 ft (KB)

Start Date: 2012.05.15

End Date: 2012.05.15

Capacity: 8000.00 psig

Last Calib.: 2012.05.15

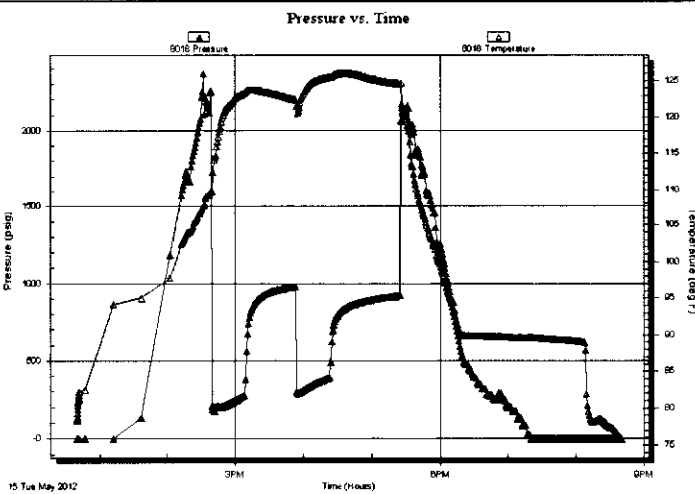
Start Time: 12:40:02

End Time: 20:40:30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF- BOB 4 min
IS- BOB 7 min
FF- BOB 4 min
FS- BOB 5 min



PRESSURE SUMMARY

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

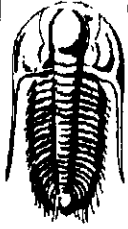
Recovery

Length (ft)	Description	Volume (bbl)
252.00	MGO 10 m 30 g 60 o	2.41
189.00	GO 30 G 70 o	2.65
252.00	mco 90 o 10 m	3.53
189.00	mog 10 m 40 o 50 g	2.65
262.00	o 100 o	3.68
0.00	2669 gip	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan, KS
Knopp #4
Job Ticket: 46588 **DST#: 9**
Test Start: 2012.05.15 @ 12:40:02

Tool Information

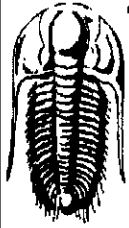
Drill Pipe:	Length: 4317.00 ft	Diameter: 3.80 inches	Volume: 60.56 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 123.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	67000.00 lb
			<u>Total Volume: 61.16 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	4442.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	58.00 ft				
Tool Length:	85.00 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			4416.00	
Shut In Tool	5.00			4421.00	
Hydraulic tool	5.00			4426.00	
Jars	5.00			4431.00	
Safety Joint	2.00			4433.00	
Packer	5.00			4438.00	27.00 Bottom Of Top Packer
Packer	4.00			4442.00	
Stubb	1.00			4443.00	
Recorder	0.00	6751	Inside	4443.00	
Recorder	0.00	8018	Outside	4443.00	
Perforations	20.00			4463.00	
Change Over Sub	1.00			4464.00	
Drill Pipe	32.00			4496.00	
Change Over Sub	1.00			4497.00	
Bullnose	3.00			4500.00	58.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr
Phillipsburg KS 67661
ATTN: Steve Murphy

13-14s-32w Logan,KS
Knopp #4
Job Ticket: 46588 **DST#: 9**
Test Start: 2012.05.15 @ 12:40:02

Mud and Cushion Information

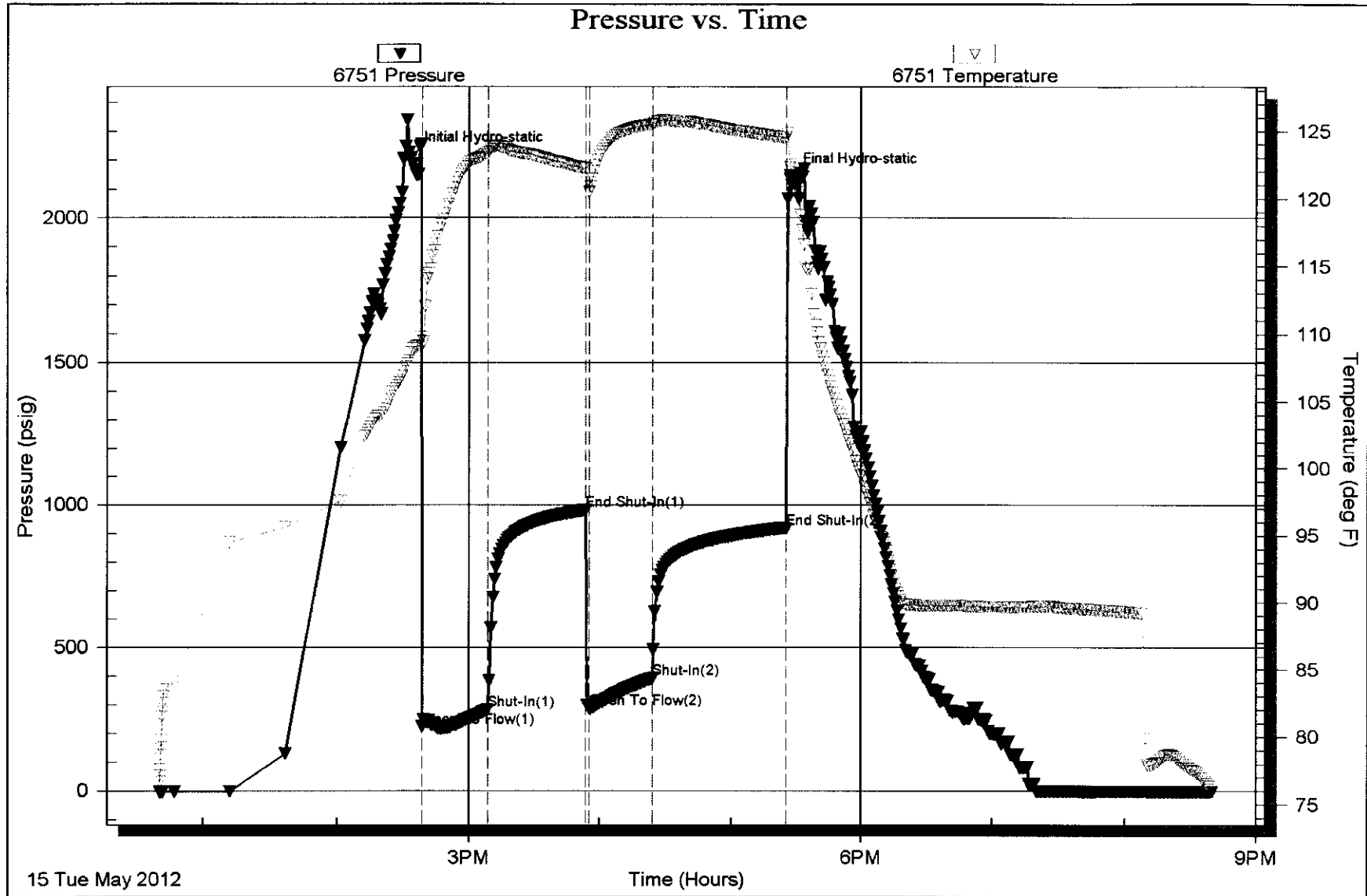
Mud Type: Gel Chem	Cushion Type:	Oil API:	31 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 66.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

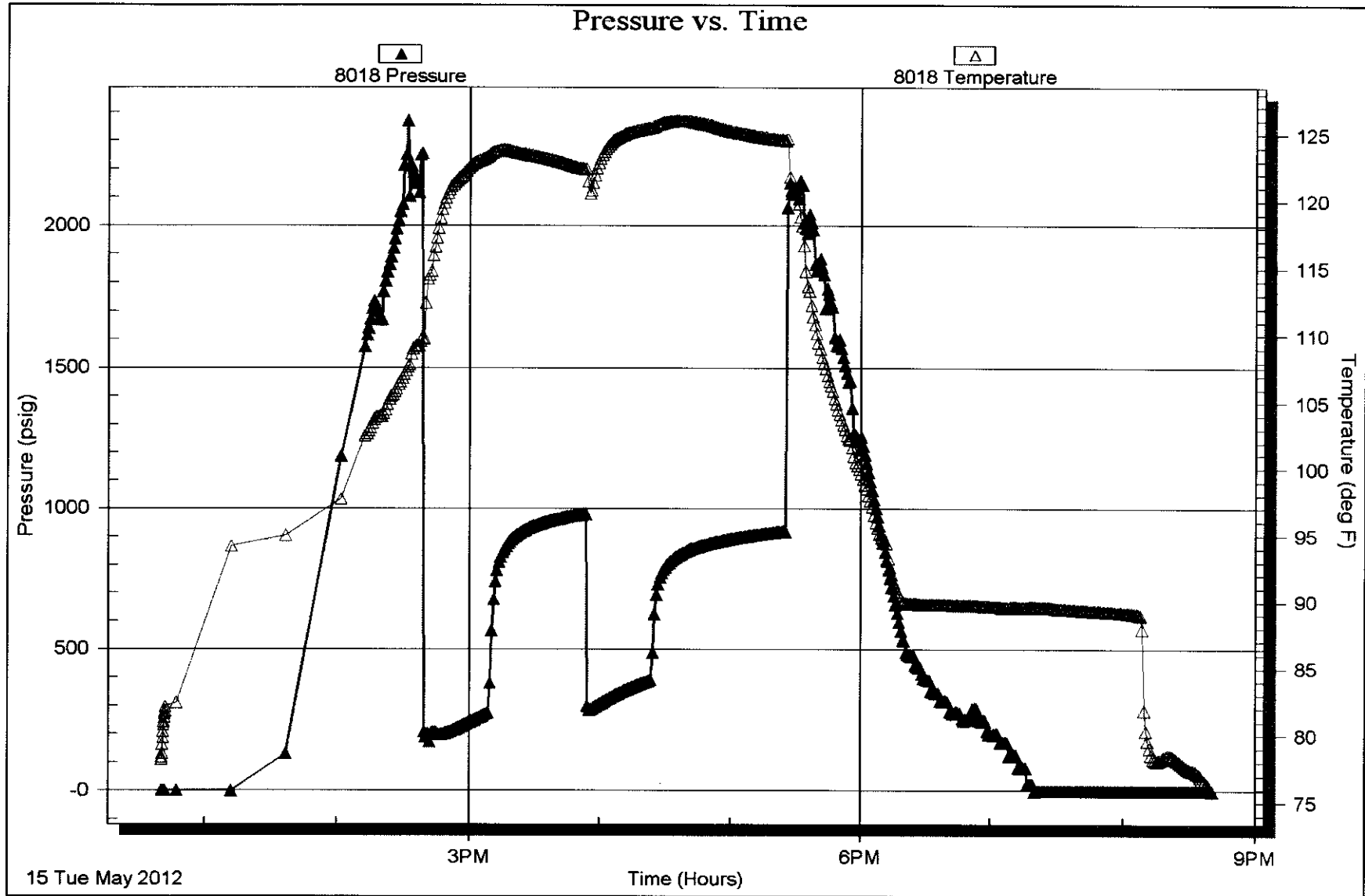
Recovery Information

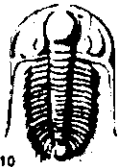
Recovery Table

Length ft	Description	Volume bbl
252.00	MGO 10 m 30 g 60 o	2.414
189.00	GO 30 G 70 o	2.651
252.00	mco 90 o 10 m	3.535
189.00	mog 10 m 40 o 50 g	2.651
262.00	o 100 o	3.675
0.00	2669 glp	0.000

Total Length: 1144.00ft Total Volume: 14.926 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







TRIBOLITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45871

Well Name & No. Knapp #1 Test No. DST #1 Date 5-10-12
 Company Pioneer Resources Elevation 2821 KB 2816 GL
 Address 80 Windmill Dr. Phillipsburg KS 67461
 Co. Rep / Geo. Steve Murphy Rig WW Rg #2
 Location: Sec. 13 Twp. 14s Rge. 32w Co. Logan State KS

Interval Tested 3908-3940 Zone Tested LKC "E & F"
 Anchor Length 32 Drill Pipe Run 3783 Mud Wt. 9.1
 Top Packer Depth 3904 Drill Collars Run 123 Vis 6.0
 Bottom Packer Depth 3908 Wt. Pipe Run 0 WI 8.4
 Total Depth 3940 Chlorides 3300 ppm System LCM 216

Blow Description IF - Weak Surface Blow Built to 3/4"
ISI - No Blow
IF - Weak Surface Blow Built to 1/4"
ISI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>G-MCO</u>	<u>3</u>	<u>85</u>	<u>12</u>	
<u>15</u>	<u>WCM</u>			<u>2</u>	<u>98</u>
<u>61</u>	<u>G-WCM</u>	<u>2</u>		<u>18</u>	<u>80</u>
<u>61</u>	<u>G-OWCM</u>	<u>4</u>	<u>4</u>	<u>18</u>	<u>74</u>
	<u>53' of G-IP</u>				

Rec Total 147 BHT 111 Gravity 35 API RW 142 @ 93 F Chlorides 36000 ppm
 (A) Initial Hydrostatic 1942 Test 1150 T-On Location 7:42
 (B) First Initial Flow 25 Jags 250 T-Started 9:22
 (C) First Final Flow 76 Safety Joint 75 T-Open 11:22
 (D) Initial Shut In 1131 Circ Sub N/C T-Pulled 13:47
 (E) Second Initial Flow 80 Hourly Standby T-Out 15:39
 (F) Second Final Flow 97 Mileage 58 R/T 89.90 Comments API is 38 @ 90 = 35
 (G) Final Shut-In 1123 Sampler
 (H) Final Hydrostatic 1805 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder Sub Total 0
 Day Standby Total 1564.9
 Accessibility MP/DST Disc't
 Sub Total 1564.90

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 45

Approved By Steve Murphy Our Representative [Signature]

Tribolite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45878

Well Name & No. Knopp #4 Test No DST #2 Date 5-11-12
 Company Pioneer Resources Elevation 2821 KB 2816 GL
 Address 80 Windmill Dr. Phillipsburg KS 67661
 Co. Rep / Geo. Steve Murphy Rig WWK's #2
 Location: Sec. 13 Twp. 14s Rge. 32W Co Logan State KS

Interval Tested 4020 - 4052 Zone Tested LKC "I"
 Anchor Length 32 Drill Pipe Run 3879 Mud Wt. 9.1
 Top Packer Depth 4016 Drill Collars Run 123 Vis 60
 Bottom Packer Depth 4020 Wt. Pipe Run 0 WL 84
 Total Depth 4052 Chlorides 3300 ppm System LCM 916
 Blow Description IF - 1/4" Blow Dried back to work surface Blow
IS? No Blow
FF - No Blow
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
5	OCM		1		99
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 5 BHT 107 Gravity _____ API RW _____ @ _____ F Chlorides _____ ppm

(A) Initial Hydrostatic 2010 Test 1250 T-On Location 1:46 AM
 (B) First Initial Flow 21 Jars 250 T-Started 4:34 AM
 (C) First Final Flow 25 Safety Joint 75 T Open 6:21
 (D) Initial Shut-In 38 Circ Sub NIC I-Pulled 8:25
 (E) Second Initial Flow 25 Hourly Standby 2Hr T-Out 10:02
 (F) Second Final Flow 25 Mileage 58 R/I 89.90 Comments Had to shut up
 (G) Final Shut-In 31 Sampler
 (H) Final Hydrostatic 1868 Straddle Ruined Shale Packer

Initial Open 30 Shale Packer Ruined Packer
 Initial Shut-In 30 Extra Packer Extra Copies
 Final Flow 30 Extra Recorder Sub Total 0
 Final Shut-In 30 Day Standby Total 1664.60
 Accessibility MP/DST Disc't
 Sub Total 1664.90

Approved By Steve Murphy Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45879

Well Name & No. Knopp #4	Test No. DST #3	Date 5-11-12
Company Pioneer Resources	Elevation 2821	KB 2816 GL
Address 80 Windmill Dr Phillipsburg KS 67661	Rig WW Ris #2	
Co. Rep / Geo Steve Murphy		
Location: Sec 13 Twp. 14s Rge. 32W Co Logan State KS		

Interval Tested 4084-4110	Zone tested LKC "K"	
Anchor Length 26	Drill Pipe Run 3944	Mud Wt. 9.2
Top Packer Depth 4080	Drill Collars Run 123	Vis 48
Bottom Packer Depth 4084	Wt Pipe Run 0	Wt 7.2
Total Depth 4110	Chlorides 2700	ppm System LCM 116

Blow Description **IF - Weak Surface Blow Built to 1"**
ISL - No Blow
FF - Weak Surface Blow
FSL - No Blow

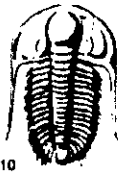
Rec	Feet of	%gas	%oil	%water	%mud
1	Oil		100%		
61	OGCM	3%	2%	95%	
61	WGM (skin of oil on top)	3%	1%	96%	
	63' of GIP				

Rec Total 123	BHT 107	Gravity	API RW	@	F Chlorides	ppm
(A) Initial Hydrostatic 2031	<input checked="" type="checkbox"/> Test 1250				T-On Location 18:42	
(B) First Initial Flow 24	<input checked="" type="checkbox"/> Jars 250				T-Started 19:04	
(C) First Final Flow 52	<input checked="" type="checkbox"/> Safety Joint 75				T-Open 20:40	
(D) Initial Shut-In 1132	<input checked="" type="checkbox"/> Circ Sub				I-Pulled 22:43	
(E) Second Initial Flow 56	<input type="checkbox"/> Hourly Standby				T-Out 00:36	
(F) Second Final Flow 79	<input checked="" type="checkbox"/> Mileage 58 R/T 89.90				Comments	
(G) Final Shut-In 1109	<input type="checkbox"/> Sampler				<input type="checkbox"/> Ruined Shale Packer	
(H) Final Hydrostatic 1855	<input type="checkbox"/> Straddle				<input type="checkbox"/> Ruined Packer	

Initial Open 30	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In 30	<input type="checkbox"/> Extra Recorder	Sub Total 0	
Final Flow 30	<input type="checkbox"/> Day Standby	Total 1664.90	
Final Shut-In 30	<input type="checkbox"/> Accessibility	MP/DST Disc't	
	Sub Total 1664.90		

Approved By _____ Our Representative **Will Moore**

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45880

Well Name & No. Knopp #4 Test No. DST #4 Date 5-12-12
 Company Pioneer Resources Elevation 2821 KB 2816 GL
 Address 80 Windmill Dr. Phillipsburg KS 67661
 Co. Rep / Geo. Steve Murphy Rig W/W Rig #2
 Location: Sec. 13 Twp. 14s Rge. 32w Co. Logan State KS

Interval Tested 4252-4312 Zone Tested Altamont \ Pawnee
 Anchor Length 60 Drill Pipe Run 4128 Mud Wt. 91
 Top Packer Depth 4248 Drill Collars Run 123 Vis 60
 Bottom Packer Depth 4252 Wt. Pipe Run 0 Wt. 84
 Total Depth 4312 Chlorides 2900 ppm System LCM 116

Blow Description IF - Surface Blow Built to BCB in 17 1/2 min
IS1 - No Blow
EF - Surface Blow Built to BCB in 35 1/2 min
ES1 - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>78</u>	<u>MCW</u>		<u>67</u>	<u>33</u>	
<u>252</u>	<u>MCW</u>		<u>92</u>	<u>8</u>	
<u>123</u>	<u>MCW</u>		<u>75</u>	<u>5</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 453 BHT 114 Gravity API RW 346 @ 56 F Chlorides 24000 ppm
 (A) Initial Hydrostatic 2157 Test 1250 T On Location 16:16
 (B) First Initial Flow 31 Jars 250 T Started 17:10
 (C) First Final Flow 149 Safety Joint 75 T Open 18:57
 (D) Initial Shut-In 1140 Circ Sub N/C T Pulled 22:17
 (E) Second Initial Flow 154 Hourly Standby T Out 00:30
 (F) Second Final Flow 228 Mileage 58 RIT 89.90
 (G) Final Shut-In 1142 Sampler
 (H) Final Hydrostatic 1926 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder Sub Total 0
 Day Standby Total 1664.90
 Accessibility MP/DST Disc't
 Sub Total 1664.90

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 60

Approved By _____ Our Representative R. M.

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45881

Well Name & No. <u>Knopp #4</u>	Test No. <u>DST #5</u>	Date <u>5-13-12</u>
Company <u>Pioneer Resources</u>	Elevation <u>2821</u>	KB <u>2816</u> GL
Address <u>80 Windmill Dr. Phillipsburg KS 67661</u>		
Co. Rep / Geo. <u>Steve Murphy</u>	Rig <u>WW Ris #2</u>	
Location: Sec. <u>13</u> Twp. <u>14s</u>	Rge. <u>32w</u> Co. <u>Logan</u>	State <u>KS</u>

Interval Tested <u>4320-4346</u>	Zone Tested <u>Myric Station</u>	
Anchor Length <u>26</u>	Drill Pipe Run <u>4191</u>	Mud Wt. <u>9.1</u>
Top Packer Depth <u>4316</u>	Drill Collars Run <u>123</u>	Vis <u>60</u>
Bottom Packer Depth <u>4320</u>	Wt. Pipe Run <u>0</u>	WL <u>8.4</u>
Total Depth <u>4346</u>	Chlorides <u>2900</u> ppm System	LCM <u>116</u>

Blow Description IF - Weak Surface Blow
ISI - No Blow
FF - No Blow
FSI - No Blow

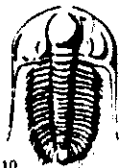
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OCM</u>		<u>2</u>	<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total <u>5</u>	BHT <u>108</u>	Gravity	API RW	@	F Chlorides	ppm
(A) Initial Hydrostatic <u>2200</u>	<input checked="" type="checkbox"/> Test 1250	T On Location <u>7:24</u>				
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars 250	T Started <u>8:08</u>				
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint 75	T Open <u>9:51</u>				
(D) Initial Shut-In <u>51</u>	<input checked="" type="checkbox"/> Circ Sub	I Pulled <u>11:57</u>				
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby	T Out <u>13:39</u>				
(F) Second Final Flow <u>28</u>	<input checked="" type="checkbox"/> Mileage <u>58 R/T</u> 89.90	Comments				
(G) Final Shut-In <u>39</u>	<input type="checkbox"/> Sampler					
(H) Final Hydrostatic <u>2021</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer				

Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1664.90</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1664.90</u>	

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45882

Well Name & No. <u>Knopp # 4</u>	Test No. <u>DST # 6</u>	Date <u>5-13-12</u>
Company <u>Pioneer Resources</u>	Elevation <u>2821</u>	KB <u>2816</u> GL
Address <u>80 Windmill Dr. Phillipsburg KS 67661</u>	Rig <u>WW Rig #2</u>	
Co. Rep / Geo. <u>Steve Murphy</u>	Location: Sec. <u>13</u> Twp. <u>14s</u> Rge. <u>32w</u> Co. <u>Logan</u> State <u>KS</u>	

Interval Tested <u>4346 - 4376</u>	Zone Tested <u>Ft. Scott</u>	
Anchor Length <u>30</u>	Drill Pipe Run <u>4222</u>	Mud Wt. <u>9.3</u>
Top Packer Depth <u>4342</u>	Drill Collars Run <u>123</u>	Vis <u>49</u>
Bottom Packer Depth <u>4346</u>	Wt. Pipe Run <u>0</u>	WI <u>8.0</u>
Total Depth <u>4376</u>	Chlorides <u>3700</u> ppm System	LCM <u>1</u>
Blow Description <u>IF - Weak Surface Blow Died in 4 min</u> <u>ISI - No Blow</u> <u>FF - No Blow</u> <u>FSI - No Blow</u>		

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud with (Few Oil Spots)</u>			<u>100</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	BHT <u>108</u>	Gravity	API RW	@	F Chlorides	ppm
(A) Initial Hydrostatic	<u>2150</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>		T On Location	<u>8:20:00</u>
(B) First Initial Flow	<u>22</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>		T Started	<u>20:28</u>
(C) First Final Flow	<u>23</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>		T Open	<u>22:06</u>
(D) Initial Shut-In	<u>27</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>		T Pulled	<u>23:09</u>
(E) Second Initial Flow	<u>23</u>	<input type="checkbox"/> Hourly Standby			T Out	<u>1:00</u>
(F) Second Final Flow	<u>23</u>	<input checked="" type="checkbox"/> Mileage	<u>58 RIT</u>	<u>89.90</u>	Comments	
(G) Final Shut-In	<u>26</u>	<input type="checkbox"/> Sampler			<input type="checkbox"/> Ruined Shale Packer	
(H) Final Hydrostatic	<u>2082</u>	<input type="checkbox"/> Straddle			<input type="checkbox"/> Ruined Packer	

Initial Open	<u>15</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Initial Shut-In	<u>15</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Flow	<u>15</u>	<input type="checkbox"/> Day Standby		Total	<u>1664.90</u>
Final Shut-In	<u>15</u>	<input type="checkbox"/> Accessibility		MP/DST Disc't	
Sub Total		<u>1664.90</u>			

Approved By _____ Our Representative Steve Murphy

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45883

Well Name & No. Knopp #4 Test No. DST # 7 Date 5-14-12
 Company Pioneer Resources Elevation 2821 KB 2816 GL
 Address 80 Windmill Dr. Phillipsburg KS 67661
 Co. Rep / Geo. Steve Murphy Rig WW Rig #2
 Location: Sec. 13 Twp. 14s Rge. 37w Co. Logan State KS

Interval Tested 4382 - 4406 Zone Tested Cherokee Lime
 Anchor Length 24 Drill Pipe Run 4254 Mud Wt. 9.3
 Top Packer Depth 4378 Drill Collars Run 123 Vis 49
 Bottom Packer Depth 4382 Wt. Pipe Run 0 WI. 8.0
 Total Depth 4406 Chlorides 3700 ppm System LCM 116

Blow Description IF - Weak Surface Blow Bolt to 34
ISI - No Blow
FF - No Blow
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>8</u>	<u>Mud with 0.1 Spots</u>			<u>100</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 BHT 112 Gravity API RW @ F Chlorides ppm
 (A) Initial Hydrostatic 2177 Test 1250 T On Location ~~7:56~~ 6:54
 (B) First Initial Flow 26 Jars 250 T Started 7:56
 (C) First Final Flow 32 Safety Joint 75 T Open 9:47
 (D) Initial Shut-In 780 Circ Sub N/C T Pulled 11:51
 (E) Second Initial Flow 36 Hourly Standby T Out 13:31
 (F) Second Final Flow 40 Mileage 58 RIT 89.90
 (G) Final Shut-In 308 Sampler
 (H) Final Hydrostatic 2065 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Sub Total 0
 Total 1664.90
 MP-DST Disc't

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 45884

Well Name & No. Knopp Test No. DST #8 Date 5-14-12
 Company Pioneer Resources Elevation 2821 KB 2816 GL
 Address 80 Windmill Dr. Phillipsburg KS 67661
 Co. Rep / Geo. Steve Murphy Rig WW Ris # 2
 Location: Sec. 13 Twp. 14s Rge. 32w Co. Logan State KS

Interval Tested 4402 - 4440 Zone tested Johnson
 Anchor Length 38 Drill Pipe Run 4255 Mud Wt. 9.3
 Top Packer Depth 4398 Drill Collars Run 123 Vis 48
 Bottom Packer Depth 4402 Wt. Pipe Run 0 WL 8.8
 Total Depth 4440 Chlorides 4200 ppm System LCM 216
 Blow Description IF - Weak Surface Blow died in 24 min
ISJ - No Blow
FF - No Blow
FSJ - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100</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 BHT 107 Gravity _____ API RW _____ @ _____ F Chlorides _____ ppm

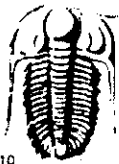
(A) Initial Hydrostatic 2213 Test 1250 _____ T-On Location 20:14
 (B) First Initial Flow 28 Jars 250 _____ T-Started 20:34
 (C) First Final Flow 31 Safety Joint 75 _____ T-Open 22:23
 (D) Initial Shut-In 108 Circ Sub NIC _____ T-Pulled 00:27
 (E) Second Initial Flow 30 Hourly Standby _____ T-Out 3:15
 (F) Second Final Flow 32 Mileage 58 R/T 89.90 _____
 (G) Final Shut-In 64 Sampler _____
 (H) Final Hydrostatic 2016 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 30 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 30 Day Standby _____
 Accessibility _____
 Sub Total 1664.90

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0 _____
 Total 1664.90 _____
 MP/DST Disc't _____

Approved By _____ Our Representative Wm M

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TRIBOLITE TESTING INC.

P.O. Box 1733 - Hays, Kansas 67601

Test Ticket

NO. 46589

Well Name & No.	Knopp #4	Test No.	9	Date	5-5-12
Company	Pioneer Resources	Elevation	2821	KB	2816 GL
Address	80 W. Windsor Dr Phillipsburg KS 67661				
Co. Rep / Geo.	Steve Murphy	Rig	WW R.g #2		
Location: Sec.	13	Twp.	14s	Rge.	32w Co. Logan State KS

Interval Tested	4442 - 4500	Zone Tested	Morrow SS-L
Anchor Length	58	Drill Pipe Run	4317
Top Packer Depth	4437	Drill Collars Run	123
Bottom Packer Depth	4442	Wt. Pipe Run	—
Total Depth	4500	Chlorides	5,000 ppm System
Blow Description	BC-13 4 min		

Blow Description	BC-13 7 min		
Blow Description	BC-13 4 min		
Blow Description	BC-13 5 min		

Rec	Feet of		%gas	%oil	%water	%mud
262	0	- 266 95.8	100			
189	MGO	50	40		10	
252	MO		90		10	
189	60	30	70			
252	MGO	30	60		10	

Rec Total	1144	BIIT	124	Gravity	31	API RW	—	@	—	Chlorides	— ppm
(A) Initial Hydrostatic	2209	<input checked="" type="checkbox"/> Test	1250	T On Location	12:00						
(B) First Initial Flow	223	<input checked="" type="checkbox"/> Jars	250	T Started	12:40						
(C) First Final Flow	283	<input checked="" type="checkbox"/> Safety Joint	75	T Open	14:40						
(D) Initial Shut-In	981	<input checked="" type="checkbox"/> Circ Sub	WC	T Pulled	17:25						
(E) Second Initial Flow	287	<input type="checkbox"/> Hourly Standby		T Out	20:40						
(F) Second Final Flow	343	<input type="checkbox"/> Mileage	56 RT 89.90	Comments							
(G) Final Shut-In	918	<input type="checkbox"/> Sampler									
(H) Final Hydrostatic	2,136	<input type="checkbox"/> Straddle									

Initial Open	30	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Shale Packer	
Initial Shut-In	45	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Final Flow	30	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Shut-In	60	<input type="checkbox"/> Extra Recorder		Sub Total	0
		<input type="checkbox"/> Day Standby		Total	1664.90
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	1664.90		

Approved By Our Representative

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