



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1322842
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

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

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

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

1322842

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

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

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

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

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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6542
6442

TICKET NUMBER 51548
LOCATION Oakley KS
FOREMAN Jerry Y

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

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice # 808441 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
8-30-16	6308	Harms #3	1	14S	52W	Logan

TRUCK #	DRIVER	TRUCK #	DRIVER
753	Miles S		
539712	Jerry Y		

CUSTOMER: Pioneer Resources
MAILING ADDRESS: 90 Windmill Drive
CITY: Phillipsburg STATE: KS ZIP CODE: 67661
JOB TYPE: Surface HOLE SIZE: 12 1/4 HOLE DEPTH: 218 CASING SIZE & WEIGHT: 8 7/8 23#
CASING DEPTH: 218 DRILL PIPE: _____ TUBING: _____ OTHER: _____
SLURRY WEIGHT: 14.8 SLURRY VOL: _____ WATER gal/sk: _____ CEMENT LEFT in CASING: 20'
DISPLACEMENT: 12 1/2 bbl DISPLACEMENT PSI: _____ MIX PSI: _____ RATE: _____

REMARKS: Soft meeting & rig upon well 10 break circulation with rig free mix 17.5 sks surface blend IT washup displac with 12 1/2 bbl fresh cement & shot in circulated approx 4 bbl to pit

Cement did
circulate

Thank you
Jerry's crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
<u>CE0450</u>	<u>1</u>	<u>PUMP CHARGE</u>	<u>1500.00</u>	<u>1500.00</u>
<u>CE0002</u>	<u>20</u>	<u>MILEAGE</u>	<u>7.15</u>	<u>143.00</u>
<u>CE0711</u>	<u>7.76</u>	<u>ten mileage delivery</u>	<u>660.00</u>	<u>660.00</u>
<u>9422 CC5871</u>	<u>165 sks</u>	<u>surface blend IT</u>	<u>23.00</u>	<u>3795.00</u>
			<u>Subtotal</u>	<u>6098.00</u>
			<u>-45%</u>	<u>2744.10</u>
			<u>Subtotal</u>	<u>3353.90</u>
			SALES TAX	<u>166.98</u>
			ESTIMATED TOTAL	<u>3520.88</u>

AUTHORIZATION Rich Miller TITLE _____ DATE _____

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

6583/6488

TICKET NUMBER 51554
 LOCATION Oakley, Ks
 FOREMAN Jerry

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

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice # 808517 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-16	6308	Harms #3	1	14S	52W	Logan
CUSTOMER		Pioneer Resources		Oakley		
ADDRESS		Windmill Drive		St. Lawrence		
CITY		Phillipsburg		E to 10		
STATE		Ks		S 1 mile		
ZIP CODE		67661		W into		
TYPE		Plug		TRUCK #		
HOLE SIZE		7 7/8		DRIVER		
DRILL PIPE		4 1/2		TRUCK #		
SLURRY VOL				DRIVER		
DISPLACEMENT PSI						
MIX PSI						

REMARKS: Safety meeting & rig up on WLD plugs ordered with 240 sks
Lite blend II 1/4" flo seal
50 sks @ 2425'
100 sks @ 1400'
50 sks @ 300'
10 sks @ 40' with 8 5/8 wooden plug
30 sks Rat hole

Thank you
 Jerry & Crew

COUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
2451	1	PUMP CHARGE		
002	20	MILEAGE	1900 ⁰⁰	1900 ⁰⁰
711	10.32	ton mileage del. surch (min)	7 ⁹	143 ⁰⁰
5829	240 sks	Lite blend II	660 ⁰⁰	660 ⁰⁰
0075	60 #	flo seal	1600	3840 ⁰⁰
2228	1	8 5/8 wooden plug	30 ⁰⁰	180 ⁰⁰
			165 ⁰⁰	165 ⁰⁰
			Subtotal	6888 ⁰⁰
			-45 ⁸	3099 ⁶⁰
			Subtotal	3788 ⁴⁰
			SALES TAX	184.14
			ESTIMATED TOTAL	\$3972.54

LOCATION Area 9/10 TITLE _____ DATE _____

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



DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr.
Phillipsburg, KS 67661

ATTN: Cliff Otaway

Harms #3

1-14s-32w Logan,KS

Start Date: 2016.09.03 @ 16:20:00

End Date: 2016.09.03 @ 21:22:15

Job Ticket #: 65557 DST #: 1

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

Printed: 2016.09.07 @ 11:41:35



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr.
 Phillipsburg, KS 67661
 ATTN: Cliff Otaway

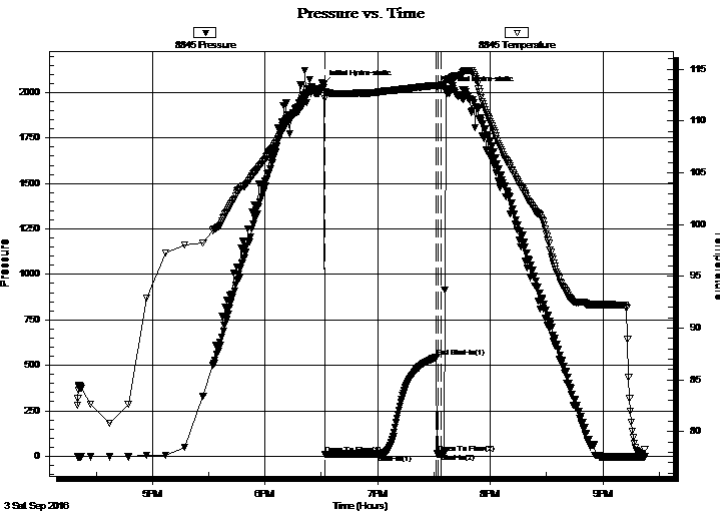
1-14s-32w Logan, KS
Harms #3
 Job Ticket: 65557 **DST#: 1**
 Test Start: 2016.09.03 @ 16:20:00

GENERAL INFORMATION:

Formation: **LKC - I**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 18:31:45 Tester: Bradley Walter
 Time Test Ended: 21:22:15 Unit No: 78
 Interval: **4150.00 ft (KB) To 4184.00 ft (KB) (TVD)** Reference Elevations: 2923.00 ft (KB)
 Total Depth: 4184.00 ft (KB) (TVD) 2918.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8845 Outside
 Press@RunDepth: 13.45 psig @ 4151.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.09.03 End Date: 2016.09.03 Last Calib.: 2016.09.03
 Start Time: 16:20:05 End Time: 21:22:14 Time On Btm: 2016.09.03 @ 18:31:00
 Time Off Btm: 2016.09.03 @ 19:36:15

TEST COMMENT: IF: Surface blow , died @ 5 minutes.
 IS: No return.
 FF: No blow . pulled test.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2044.21	113.24	Initial Hydro-static
1	11.13	112.19	Open To Flow (1)
29	13.45	112.77	Shut-In(1)
61	543.48	113.45	End Shut-In(1)
62	14.14	113.44	Open To Flow (2)
63	14.25	113.46	Shut-In(2)
66	2007.94	113.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100m (oil specs)	0.02

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: Cliff Otaway

1-14s-32w Logan,KS
Harms #3
Job Ticket: 65557 **DST#: 1**
Test Start: 2016.09.03 @ 16:20:00

Tool Information

Drill Pipe:	Length: 4041.00 ft	Diameter: 3.80 inches	Volume: 56.68 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume: 57.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4150.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4131.00	
Shut In Tool	5.00			4136.00	
Hydraulic tool	5.00			4141.00	
Packer	5.00			4146.00	20.00 Bottom Of Top Packer
Packer	4.00			4150.00	
Stubb	1.00			4151.00	
Recorder	0.00	8365	Inside	4151.00	
Recorder	0.00	8845	Outside	4151.00	
Perforations	30.00			4181.00	
Bullnose	3.00			4184.00	34.00 Bottom Packers & Anchor
Total Tool Length:	54.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr.
Phillipsburg, KS 67661
ATTN: Cliff Otaway

1-14s-32w Logan,KS
Harms #3
Job Ticket: 65557 **DST#: 1**
Test Start: 2016.09.03 @ 16:20:00

Mud and Cushion Information

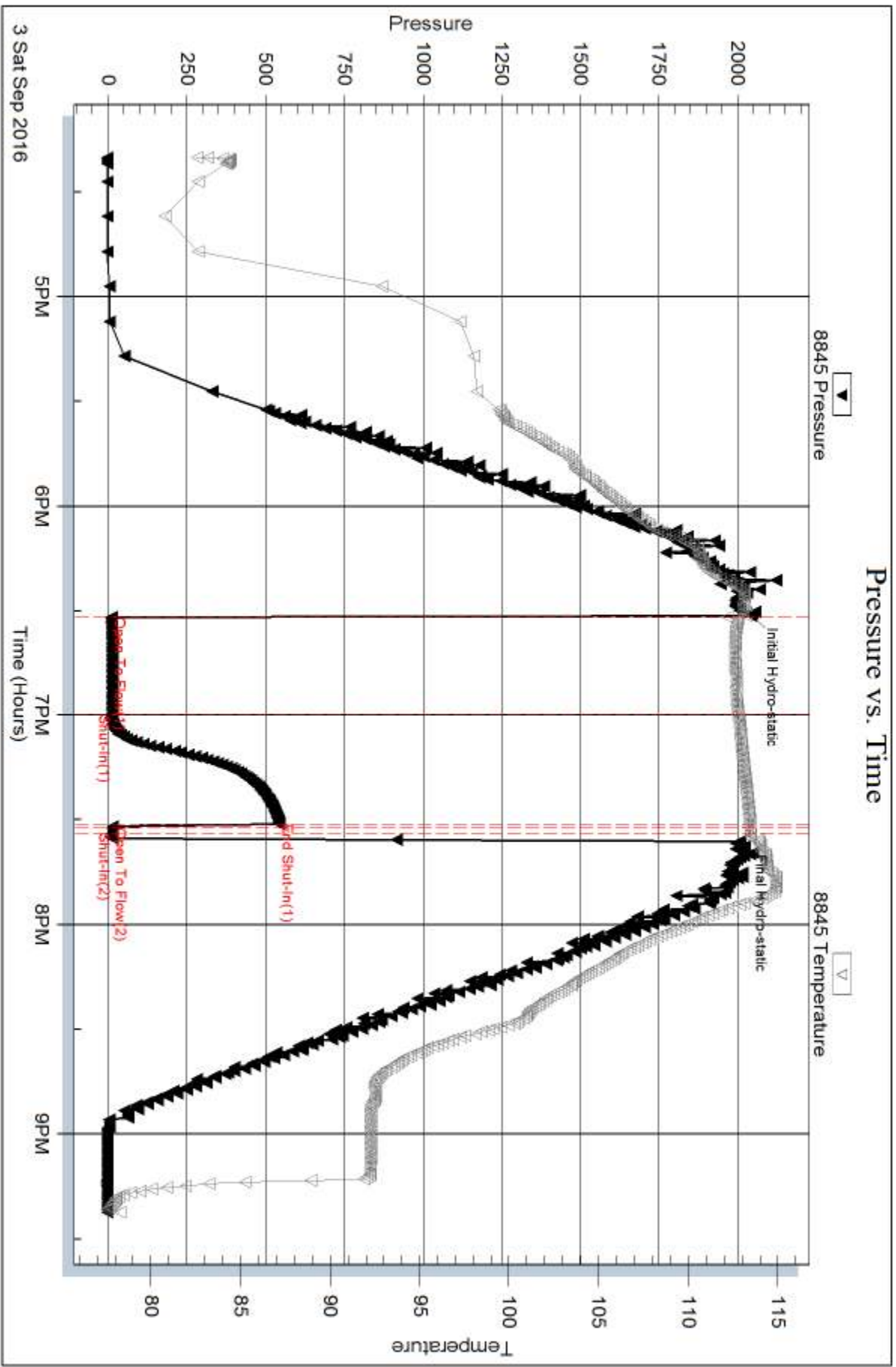
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2500.00 ppm			
Filter Cake: 1.00 inches			

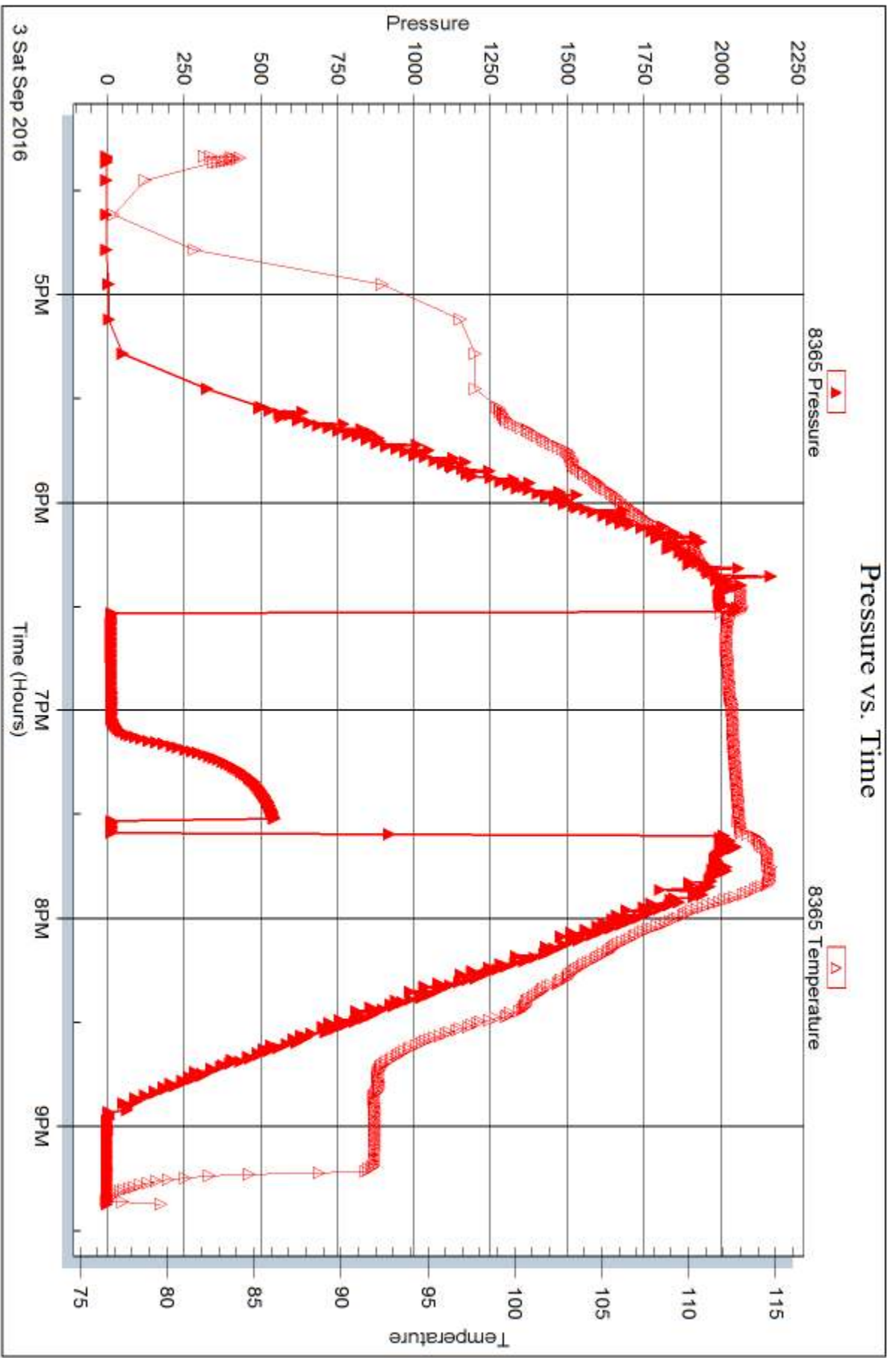
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100m (oil specs)	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: Cliff Otaway

Harms #3

1-14s-32w Logan,KS

Start Date: 2016.09.05 @ 01:11:00

End Date: 2016.09.05 @ 06:59:45

Job Ticket #: 65558 DST #: 2

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

Printed: 2016.09.07 @ 11:40:02



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr.
 Phillipsburg, KS 67661
 ATTN: Cliff Otaway

1-14s-32w Logan,KS

Harms #3

Job Ticket: 65558

DST#: 2

Test Start: 2016.09.05 @ 01:11:00

GENERAL INFORMATION:

Formation: **Myrick Station**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:32:45
 Time Test Ended: 06:59:45
 Interval: **4424.00 ft (KB) To 4450.00 ft (KB) (TVD)**
 Total Depth: 4450.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 2923.00 ft (KB)
 2918.00 ft (CF)
 KB to GR/CF: 5.00 ft

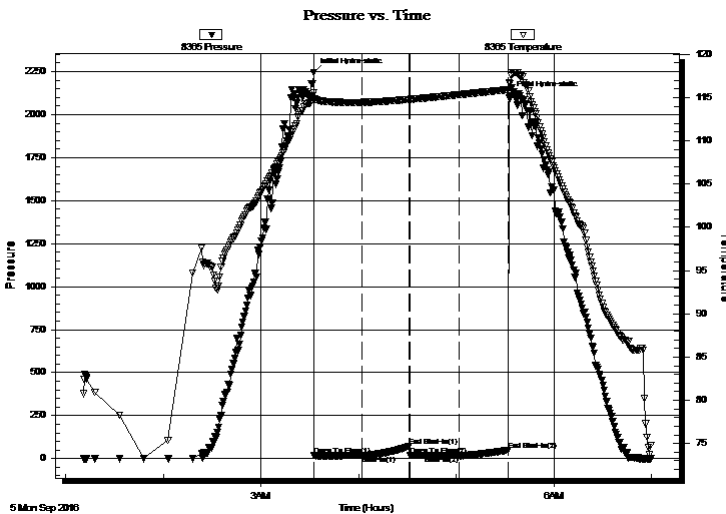
Serial #: 8365

Inside

Press@RunDepth: 17.51 psig @ 4425.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.09.05 End Date: 2016.09.05 Last Calib.: 2016.09.05
 Start Time: 01:11:05 End Time: 06:59:44 Time On Btm: 2016.09.05 @ 03:32:30
 Time Off Btm: 2016.09.05 @ 05:33:00

TEST COMMENT: IF: Surface blow , died @ 17 min.
 IS: No return.
 FF: No blow .
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2245.56	115.60	Initial Hydro-static
1	17.13	114.62	Open To Flow (1)
30	18.25	114.45	Shut-In(1)
59	72.00	114.78	End Shut-In(1)
59	17.17	114.79	Open To Flow (2)
90	17.51	115.34	Shut-In(2)
120	47.62	115.92	End Shut-In(2)
121	2110.39	116.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100m (oil spots)	0.05

* 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: Cliff Otaway

1-14s-32w Logan, KS
Harms #3
Job Ticket: 65558 **DST#: 2**
Test Start: 2016.09.05 @ 01:11:00

Tool Information

Drill Pipe:	Length: 4297.00 ft	Diameter: 3.80 inches	Volume: 60.28 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 60.87 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4424.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	26.00 ft				
Tool Length:	46.00 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			4405.00	
Shut In Tool	5.00			4410.00	
Hydraulic tool	5.00			4415.00	
Packer	5.00			4420.00	20.00 Bottom Of Top Packer
Packer	4.00			4424.00	
Stubb	1.00			4425.00	
Recorder	0.00	8365	Inside	4425.00	
Recorder	0.00	8845	Outside	4425.00	
Perforations	22.00			4447.00	
Bullnose	3.00			4450.00	26.00 Bottom Packers & Anchor
Total Tool Length:	46.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr.
Phillipsburg, KS 67661
ATTN: Cliff Otaway

1-14s-32w Logan,KS
Harms #3
Job Ticket: 65558 **DST#: 2**
Test Start: 2016.09.05 @ 01:11:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3500.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

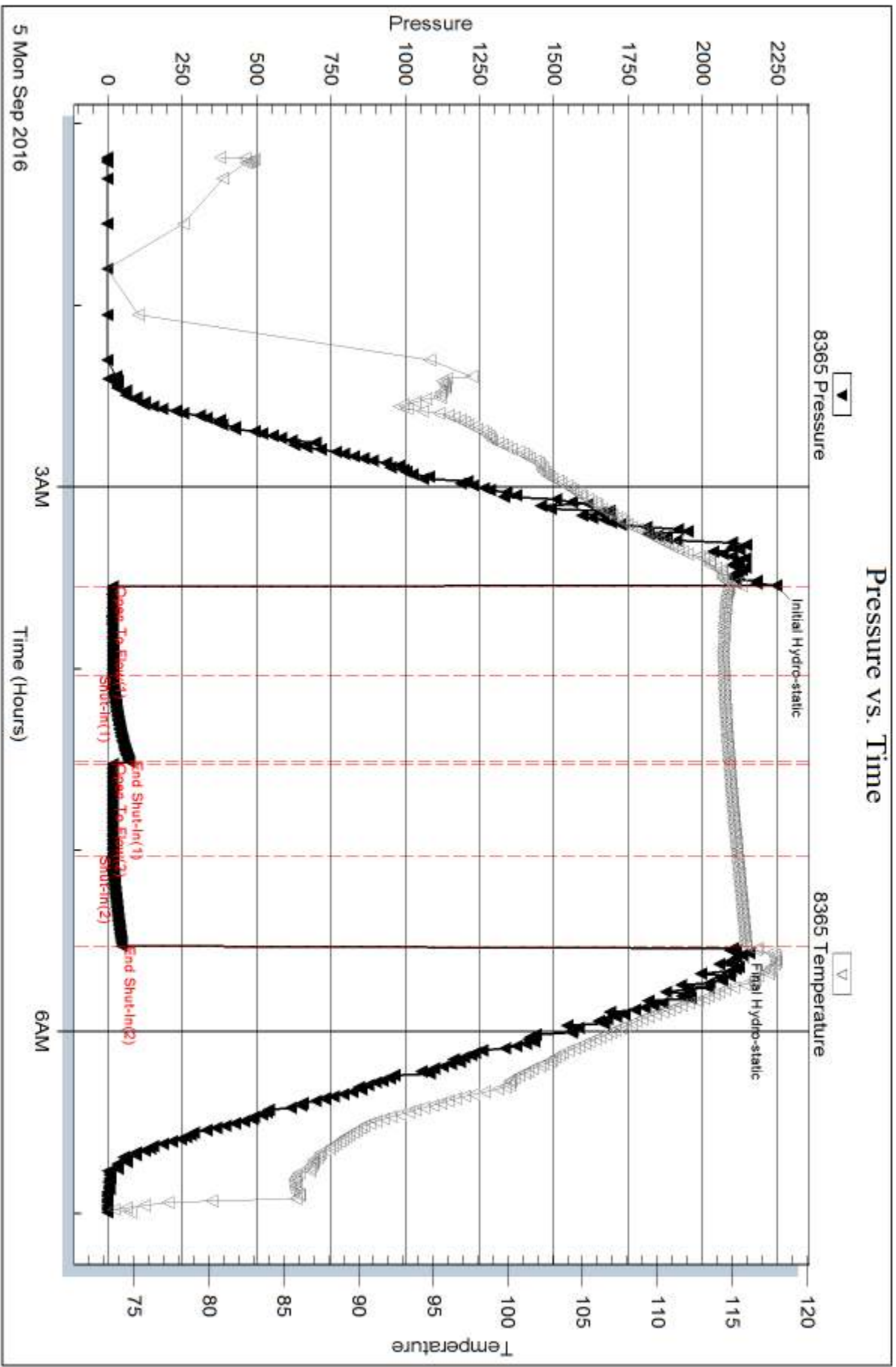
Length ft	Description	Volume bbl
10.00	Mud 100m (oil spots)	0.049

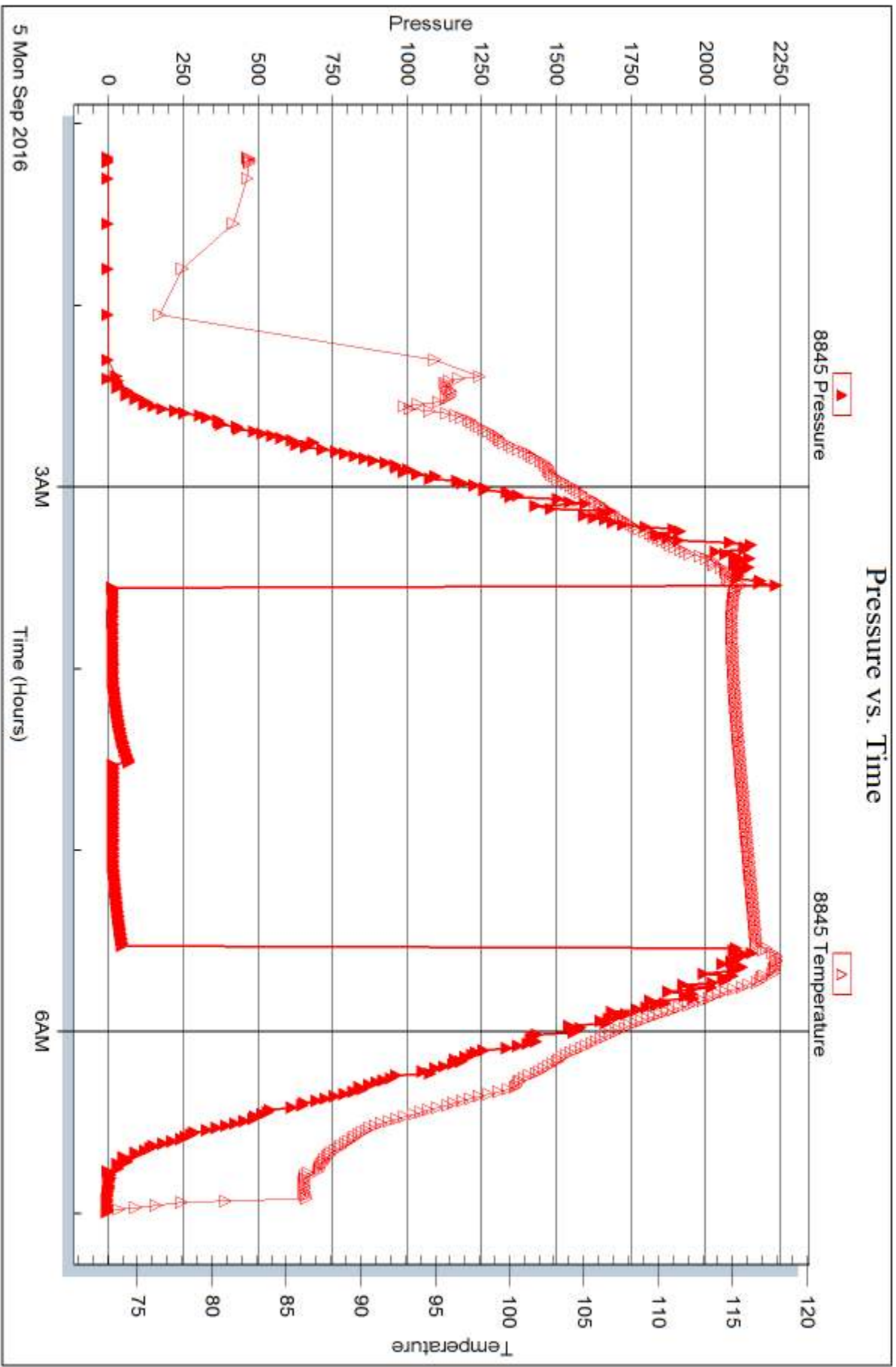
Total Length: 10.00 ft Total Volume: 0.049 bbl

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: Cliff Otaway

Harms #3

1-14s-32w Logan,KS

Start Date: 2016.09.05 @ 20:30:00

End Date: 2016.09.06 @ 03:23:45

Job Ticket #: 65559 DST #: 3

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

Printed: 2016.09.07 @ 11:39:33



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr.
 Phillipsburg, KS 67661
 ATTN: Cliff Otaway

1-14s-32w Logan,KS

Harms #3

Job Ticket: 65559

DST#: 3

Test Start: 2016.09.05 @ 20:30:00

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:22:45
 Time Test Ended: 03:23:45
 Interval: **4506.00 ft (KB) To 4556.00 ft (KB) (TVD)**
 Total Depth: 4556.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 2923.00 ft (KB)
 2918.00 ft (CF)
 KB to GR/CF: 5.00 ft

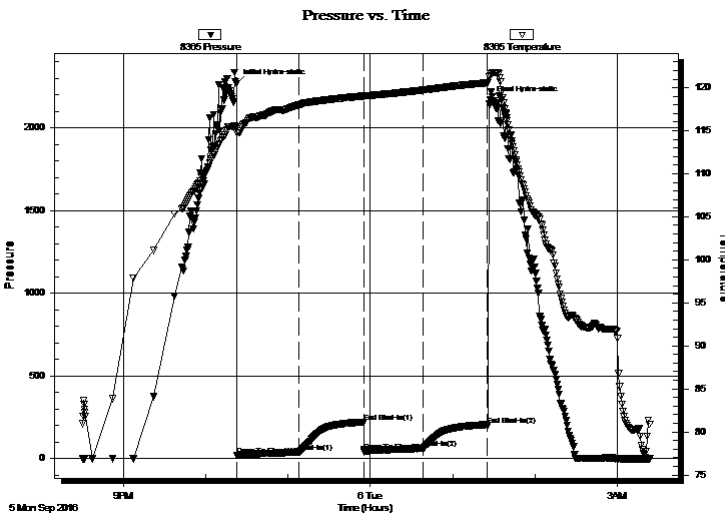
Serial #: 8365

Inside

Press@RunDepth: 61.11 psig @ 4507.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.09.05 End Date: 2016.09.06 Last Calib.: 2016.09.06
 Start Time: 20:30:05 End Time: 03:23:44 Time On Btm: 2016.09.05 @ 22:22:15
 Time Off Btm: 2016.09.06 @ 01:27:15

TEST COMMENT: IF: 4" blow.
 IS: No return.
 FF: 2" blow.
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2269.12	115.45	Initial Hydro-static
1	18.34	114.80	Open To Flow (1)
46	40.08	118.00	Shut-In(1)
93	221.26	119.03	End Shut-In(1)
94	45.44	119.04	Open To Flow (2)
137	61.11	119.73	Shut-In(2)
184	203.07	120.58	End Shut-In(2)
185	2167.64	121.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	gocm 20g 30o 50m	0.34
30.00	free oil	0.15
0.00	80' 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: Cliff Otaway

1-14s-32w Logan,KS
Harms #3
Job Ticket: 65559 **DST#: 3**
Test Start: 2016.09.05 @ 20:30:00

Tool Information

Drill Pipe:	Length: 4390.00 ft	Diameter: 3.80 inches	Volume: 61.58 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	88000.00 lb
			<u>Total Volume: 62.17 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4506.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	50.00 ft				
Tool Length:	70.00 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			4487.00	
Shut In Tool	5.00			4492.00	
Hydraulic tool	5.00			4497.00	
Packer	5.00			4502.00	20.00 Bottom Of Top Packer
Packer	4.00			4506.00	
Stubb	1.00			4507.00	
Recorder	0.00	8365	Inside	4507.00	
Recorder	0.00	8845	Outside	4507.00	
Perforations	13.00			4520.00	
Change Over Sub	1.00			4521.00	
Drill Pipe	31.00			4552.00	
Change Over Sub	1.00			4553.00	
Bullnose	3.00			4556.00	50.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr.
Phillipsburg, KS 67661
ATTN: Cliff Otaway

1-14s-32w Logan,KS
Harms #3
Job Ticket: 65559 **DST#: 3**
Test Start: 2016.09.05 @ 20:30:00

Mud and Cushion Information

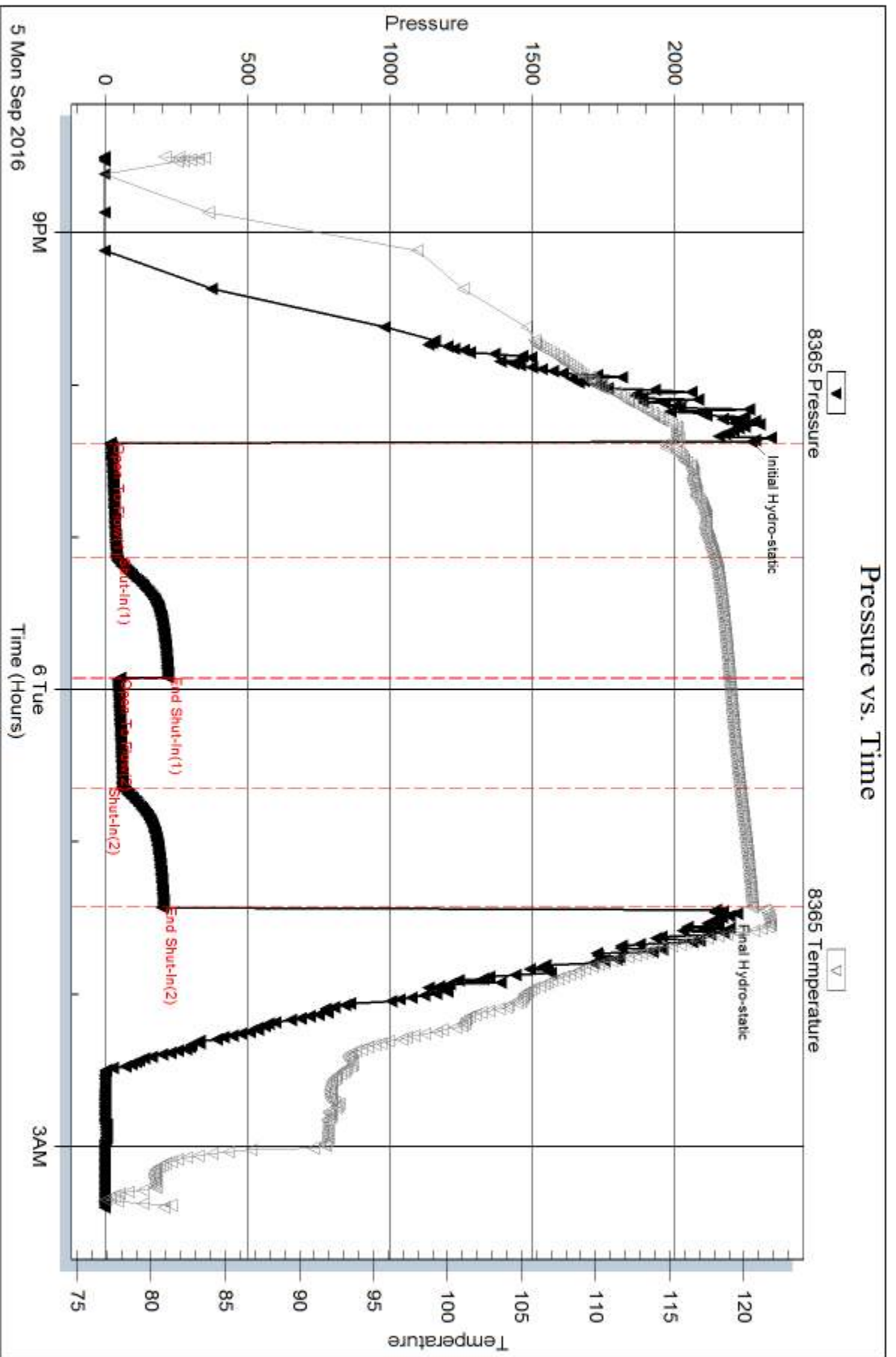
Mud Type: Gel Chem	Cushion Type:	Oil API: 27 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.19 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 3500.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	gocm 20g 30o 50m	0.344
30.00	free oil	0.148
0.00	80' GIP	0.000

Total Length: 100.00 ft Total Volume: 0.492 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

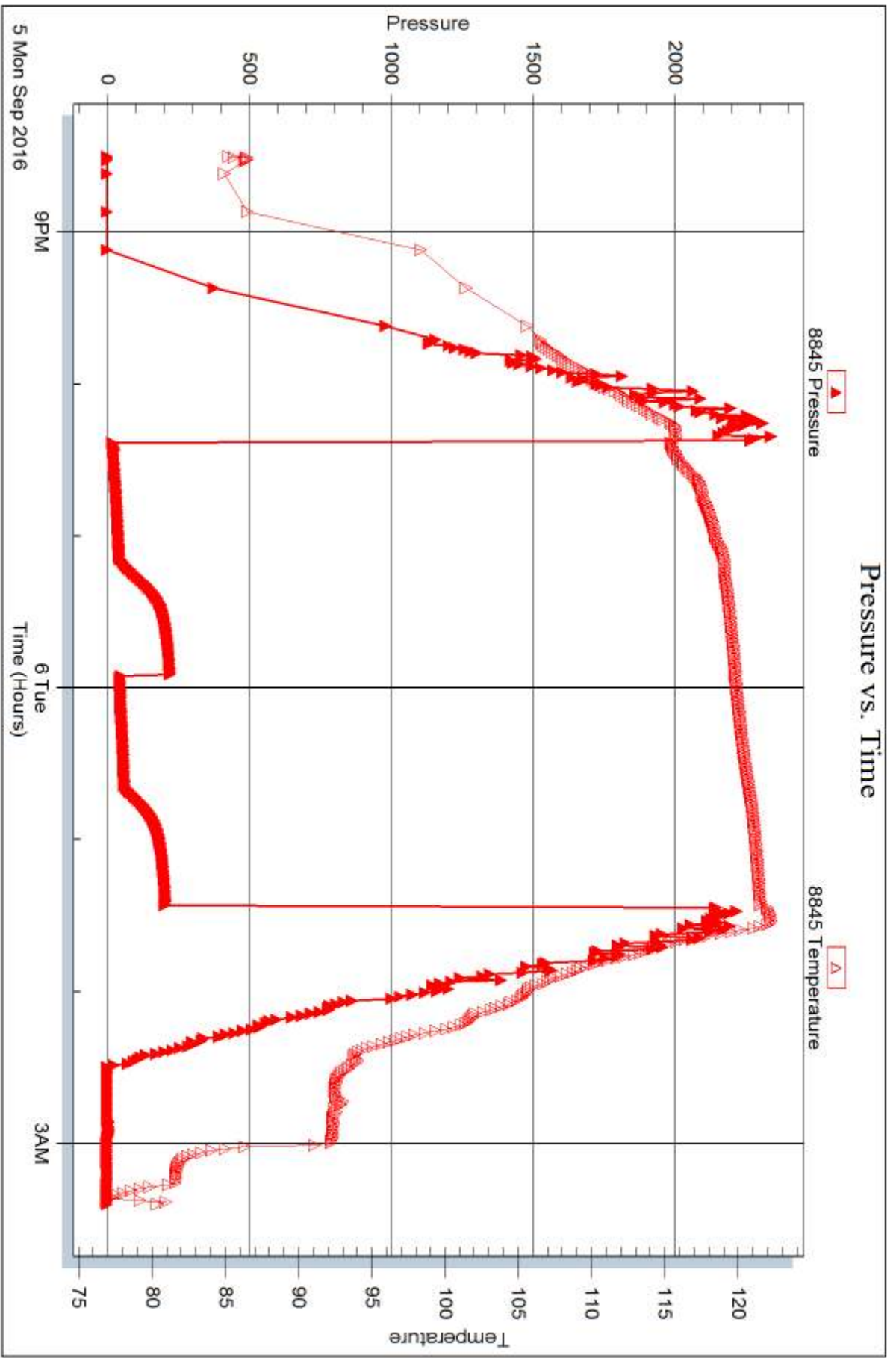


Serial #: 8845

Outside Pioneer Resources

Harms #3

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Pioneer Resources**

80 Windmill Dr.
Phillipsburg, KS 67661

ATTN: Cliff Otaway

Harms #3

1-14s-32w Logan,KS

Start Date: 2016.09.06 @ 11:34:00

End Date: 2016.09.06 @ 17:22:30

Job Ticket #: 65560 DST #: 4

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

Printed: 2016.09.07 @ 11:39:01



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pioneer Resources
 80 Windmill Dr.
 Phillipsburg, KS 67661
 ATTN: Cliff Otaway

1-14s-32w Logan,KS

Harms #3

Job Ticket: 65560

DST#: 4

Test Start: 2016.09.06 @ 11:34:00

GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:20:00

Time Test Ended: 17:22:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 4554.00 ft (KB) To 4605.00 ft (KB) (TVD)

Reference Elevations: 2923.00 ft (KB)

Total Depth: 4605.00 ft (KB) (TVD)

2918.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8365

Inside

Press@RunDepth: 65.21 psig @ 4555.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.09.06

End Date:

2016.09.06

Last Calib.:

2016.09.06

Start Time: 11:34:05

End Time:

17:22:29

Time On Btm:

2016.09.06 @ 13:19:15

Time Off Btm:

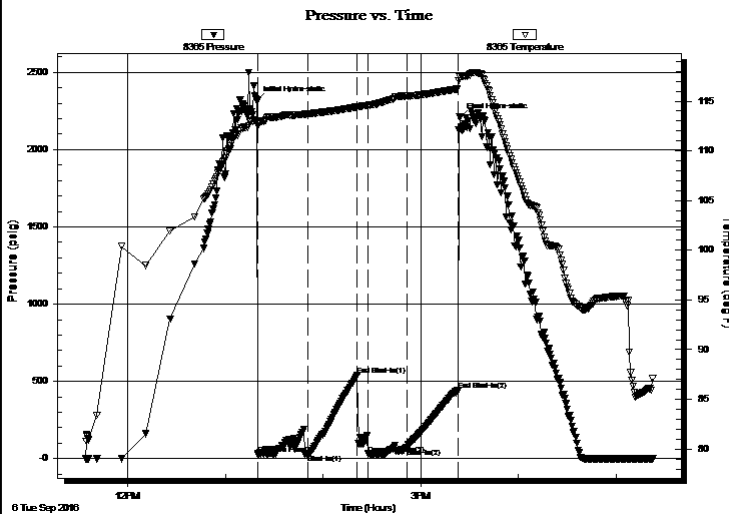
2016.09.06 @ 15:24:00

TEST COMMENT: IF 1/2" blow, died @ 15 min.

IS: No return.

FF: No blow.

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2319.27	113.05	Initial Hydro-static
1	25.87	112.56	Open To Flow (1)
32	29.27	113.72	Shut-In(1)
62	538.62	114.43	End Shut-In(1)
69	30.48	114.58	Open To Flow (2)
93	65.21	115.53	Shut-In(2)
124	439.85	116.23	End Shut-In(2)
125	2209.90	117.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud 100m (oil specs)	0.07

* 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: Cliff Otaway

1-14s-32w Logan,KS
Harms #3
Job Ticket: 65560 **DST#: 4**
Test Start: 2016.09.06 @ 11:34:00

Tool Information

Drill Pipe:	Length: 4424.00 ft	Diameter: 3.80 inches	Volume: 62.06 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 62.65 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4554.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	71.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4535.00	
Shut In Tool	5.00			4540.00	
Hydraulic tool	5.00			4545.00	
Packer	5.00			4550.00	20.00 Bottom Of Top Packer
Packer	4.00			4554.00	
Stubb	1.00			4555.00	
Recorder	0.00	8365	Inside	4555.00	
Recorder	0.00	8845	Outside	4555.00	
Perforations	14.00			4569.00	
Change Over Sub	1.00			4570.00	
Drill Pipe	31.00			4601.00	
Change Over Sub	1.00			4602.00	
Bullnose	3.00			4605.00	51.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pioneer Resources
80 Windmill Dr.
Phillipsburg, KS 67661
ATTN: Cliff Otaway

1-14s-32w Logan,KS
Harms #3
Job Ticket: 65560 **DST#: 4**
Test Start: 2016.09.06 @ 11:34:00

Mud and Cushion Information

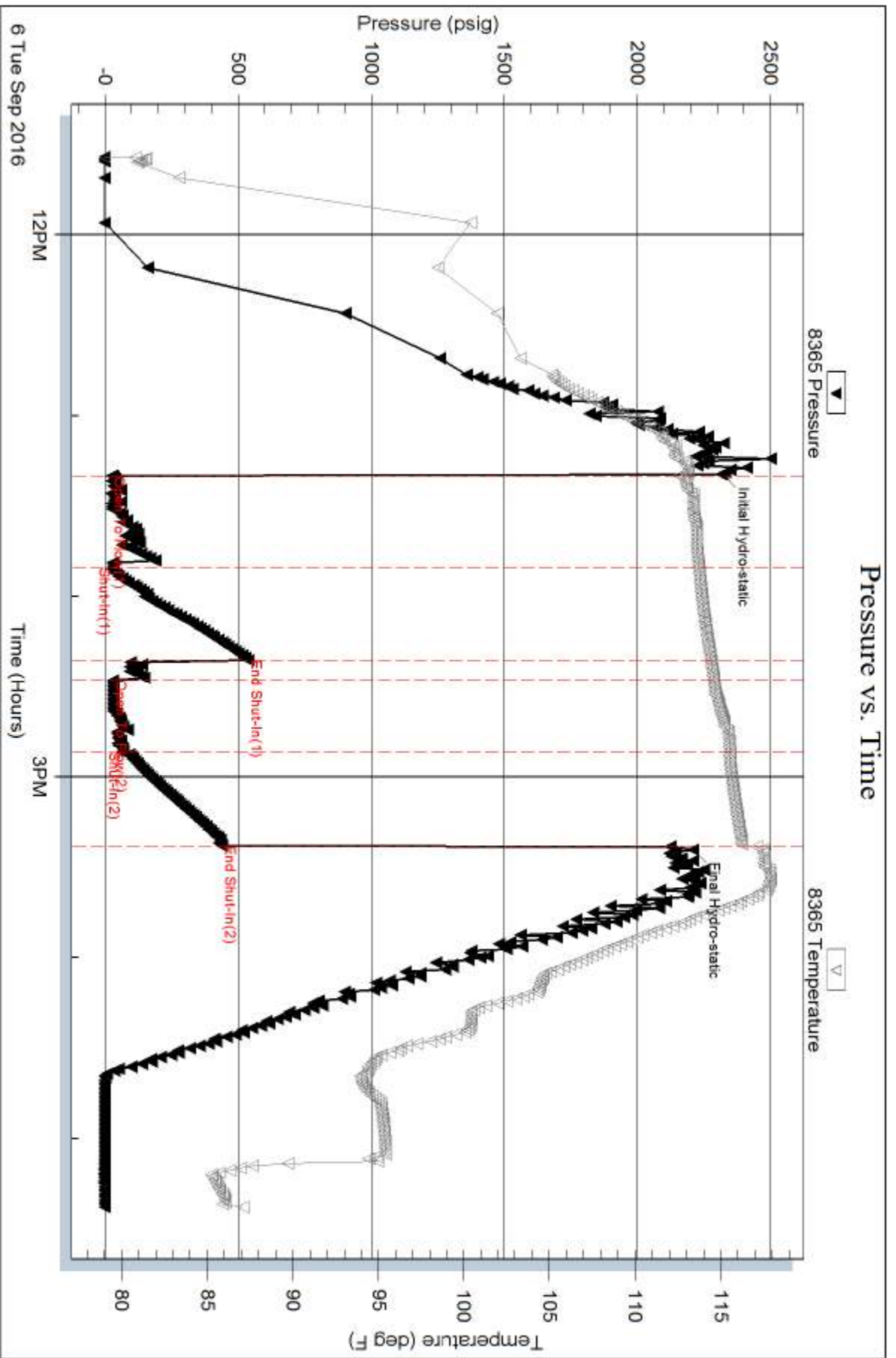
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Mud 100m (oil specs)	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

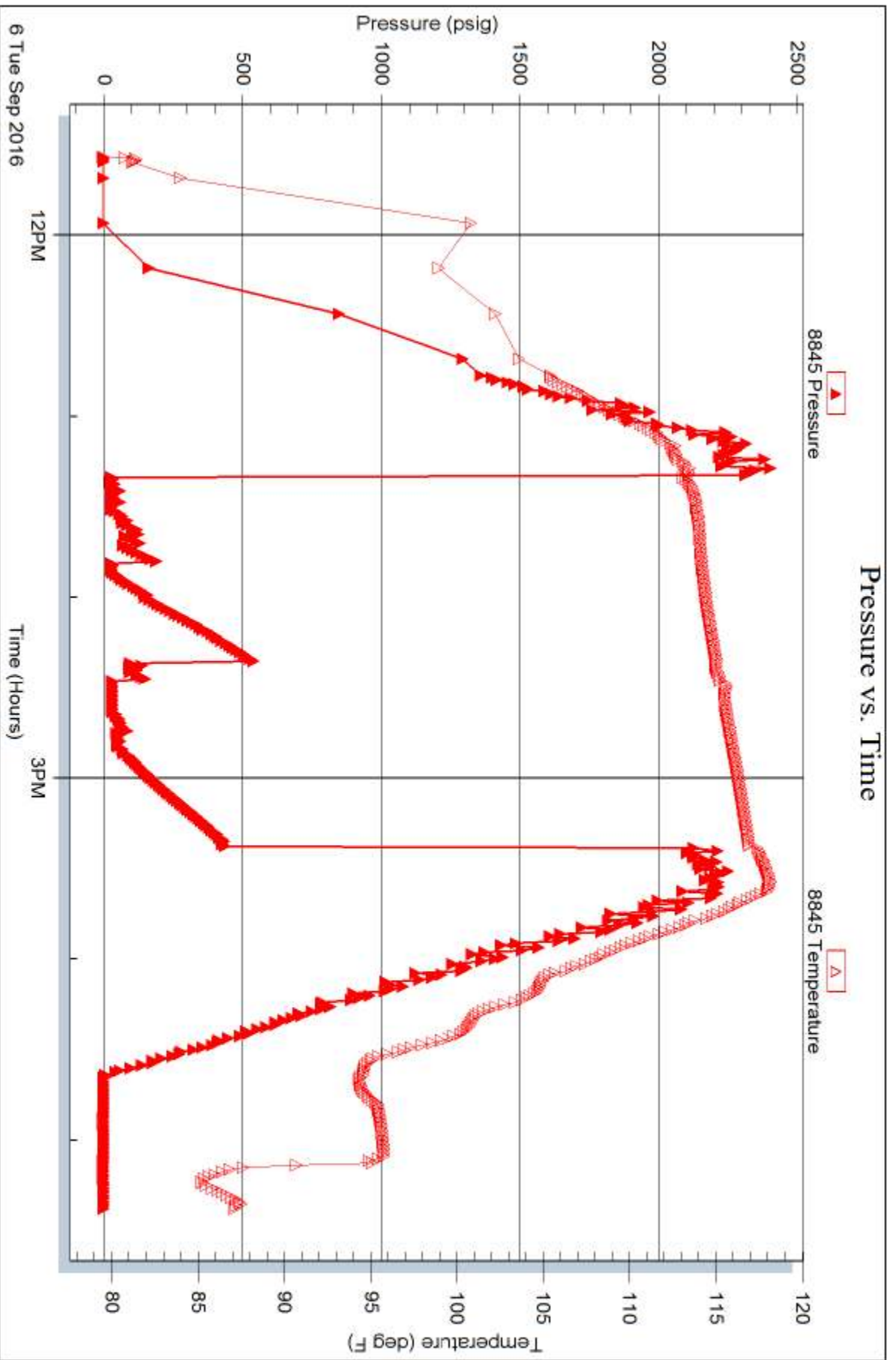


Serial #: 8845

Outside Pioneer Resources

Harms #3

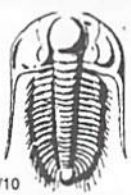
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 65560

Printed: 2016.09.07 @ 11:39:03



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65557**

Well Name & No. Harms #3 Test No. 1 Date 9/3/2016
 Company Pioneer Resources Elevation 2923 KB 2918 GL
 Address 80 Windmill Dr Phillipsburg Es 67661
 Co. Rep / Geo. Cliff Otaway Rig WW 10
 Location: Sec. 1 Twp. 14S Rge. 32W Co. Logan State Ks

Interval Tested 4130 4184 Zone Tested LKC I
 Anchor Length 34 Drill Pipe Run 4041 Mud Wt. 9.1
 Top Packer Depth 4145 Drill Collars Run 120 Vis 55
 Bottom Packer Depth 4150 Wt. Pipe Run Ø WL 7.2
 Total Depth 4184 Chlorides 2500 ppm System LCM 2#
 Blow Description IF Surface blow died @ 5 min.
ISF No return.
PF No flow
PSI Pulled test

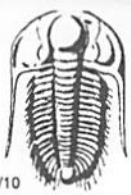
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</u>	
	<u>(oil specks)</u>				

Rec Total 5 BHT 114 Gravity — API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 2044 Test 1150 T-On Location 1530
 (B) First Initial Flow 11 Jars — T-Started 1620
 (C) First Final Flow 13 Safety Joint — T-Open 1832
 (D) Initial Shut-In 543 Circ Sub N/C T-Pulled 1940
 (E) Second Initial Flow 14 Hourly Standby — T-Out 2122
 (F) Second Final Flow 14 Mileage 64 ~~74~~ 48 Comments Loaded 9/7/2016
 (G) Final Shut-In — Sampler —
 (H) Final Hydrostatic 2008 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1198
 Accessibility — MP/DST Disc't —
 Sub Total 1198

Approved By _____ Our Representative

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WALT 785 623 1407



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65558**

Well Name & No. Harms #3 Test No. 2 Date 9/5/2016
 Company Pioneer Resources Elevation 2923 KB 2918 GL
 Address 80 Windmill dr Phillipsburg, Ks 67661
 Co. Rep / Geo. Cliff O'away Rig WW 10
 Location: Sec. 1 Twp. 14s Rge. 32w Co. Logan State KS

Interval Tested 4424-4450 Zone Tested Myric Station
 Anchor Length 26 Drill Pipe Run 4297 Mud Wt. 9.1
 Top Packer Depth 4419 Drill Collars Run 120 Vis 49
 Bottom Packer Depth 4424 Wt. Pipe Run 0 WL 9.6
 Total Depth 4450 Chlorides 3500 ppm System LCM 2#
 Blow Description IF: Surface blow dried @ 17 min
ISI: No return.
PF: No blow
FSI: No return.

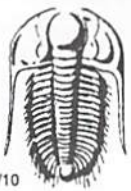
Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>MUD</u>			<u>100</u>	
	<u>Oil spots</u>				

Rec Total 15 BHT 119 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2246</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2300</u> <u>9/04</u>
(B) First Initial Flow <u>17</u>	Test	T-Started <u>0111</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint	T-Open <u>0332</u>
(D) Initial Shut-In <u>72</u>	<input checked="" type="checkbox"/> Circ Sub <u>AC</u>	T-Pulled <u>0532</u>
(E) Second Initial Flow <u>17</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0659</u>
(F) Second Final Flow <u>18</u>	<input checked="" type="checkbox"/> Mileage <u>64 RT</u> <u>48</u>	Comments
(G) Final Shut-In <u>48</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2110</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1198</u>
	Sub Total <u>1198</u>	MP/DST Disc't

Approved By _____ Our Representative 

Trilobite 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.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65559**

Well Name & No. Harms #3 Test No. 3 Date 9/6/2016
 Company Pioneer Resources Elevation 2923 KB 2918 GL
 Address 80 Windmill dr Phillipsburg KS 67061
 Co. Rep / Geo. Cliff Otaway Rig WW10
 Location: Sec. 1 Twp. 14S Rge. 32W Co. Logan State KS

Interval Tested 4500 - 4556 Zone Tested Johnson
 Anchor Length 50 Drill Pipe Run 4390 Mud Wt. 9.1
 Top Packer Depth 4501 Drill Collars Run 120 Vis 50
 Bottom Packer Depth 4506 Wt. Pipe Run 0 WL 9.2
 Total Depth 4556 Chlorides 3500 ppm System LCM 2#
 Blow Description IF 4" blow
ISI No return
FF 2" blow
FSI No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Free O.I.</u>		<u>100%</u>		
<u>70</u>	<u>9' CON</u>	<u>20%</u>	<u>30%</u>	<u>50%</u>	
	<u>80' GIP</u>				

Rec Total 100 BHT 120 Gravity 27 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2269 Test 1150 T-On Location 2000
 (B) First Initial Flow 18 Jars _____ T-Started 2030
 (C) First Final Flow 40 Safety Joint _____ T-Open 2224
 (D) Initial Shut-In 221 Circ Sub N/C T-Pulled 0124
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 0323
 (F) Second Final Flow 61 Mileage 64RT 48 Comments _____
 (G) Final Shut-In 203 Sampler _____
 (H) Final Hydrostatic 2167 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer 320
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 320
 Day Standby _____ Total 1518
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1198

Approved By _____ Our Representative 

TriLOBITE 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.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65560**

Well Name & No. Harms #3 Test No. 4 Date 9/6/2016
 Company Pioneer Resources Elevation 2923 KB 2918 GL
 Address 80 Windmill dr. Phillipsburg Ks 67661
 Co. Rep / Geo. Cliff Otaway Rig _____
 Location: Sec. 1 Twp. 14s Rge. 32w Co. Logan State KS

Interval Tested 4554 - 4605 Zone Tested Morrow Sand
 Anchor Length 51 Drill Pipe Run 4244 Mud Wt. 9.3
 Top Packer Depth 4549 Drill Collars Run 120 Vis 60
 Bottom Packer Depth 4554 Wt. Pipe Run 0 WL 9.6
 Total Depth 4605 Chlorides 4,000 ppm System LCM 1#
 Blow Description IF: 1/2" blow dead @ 15 minutes
ISI: No return.
FF: No blow
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>mud</u>			<u>100</u>	
	<u>OIL SPOTS</u>				

Rec Total 15 BHT 116 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2319</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1100</u>
(B) First Initial Flow <u>26</u>	<input type="checkbox"/> Jars _____	T-Started <u>1134</u>
(C) First Final Flow <u>29</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>1320</u>
(D) Initial Shut-In <u>539</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>1520</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1723</u>
(F) Second Final Flow <u>65</u>	<input checked="" type="checkbox"/> Mileage <u>64 RT x2</u> <u>96</u>	Comments <u>Loaded @</u>
(G) Final Shut-In <u>440</u>	<input type="checkbox"/> Sampler _____	<u>0900 9/7</u>
(H) Final Hydrostatic <u>2210</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>1246</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1246</u>	

Approved By _____ Our Representative

Trilobite 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.