

CONFIDENTIAL

KANSAS CORPORATION COMMISSION
Oil & Gas CONSERVATION DIVISION

ORIGINAL

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 # 4767
Name: Ritchie Exploration, Inc.
Address 1: P.O. Box 783188
Address 2: _____
City: Wichita State: KS Zip: 67278 + 3188
Contact Person: John Niemberger
Phone: (316) 691-9500
CONTRACTOR: License # 30606
Name: Murfin Drilling, Co. Inc.
Wellsite Geologist: Mike Engelbrecht
Purchaser: NCRA

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>12/6/10</u>	<u>12/17/10</u>	<u>12/17/10</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 063-21878-00-00
Spot Description: 5' N & 130' W
S/2_ S/2_ SW_ Sec. 30 Twp. 13 S. R. 31 East West
335 Feet from North / South Line of Section
1,190 Feet from East / West Line of Section
Footages Calculated from Nearest Outside Section Corner:
 NE NW SE SW
County: Gove
Lease Name: Joseph 30CD Well #: 2
Field Name: _____
Producing Formation: LKC
Elevation: Ground: 2923' Kelly Bushing: 2933'
Total Depth: 4685' Plug Back Total Depth: 4619'
Amount of Surface Pipe Set and Cemented at: 222' Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set: 2386' Feet
If Alternate II completion, cement circulated from: surface
feet depth to: 2386' w/ 350 sx cmt.

Drilling Fluid Management Plan *[Signature]*
(Data must be collected from the Reserve Pit)
Chloride content: 11000 ppm Fluid volume: 1000 bbls
Dewatering method used: evaporation
Location of fluid disposal if hauled offsite: _____
Operator Name: _____
Lease Name: _____ License # MAR 08 2013
Quarter _____ Sec. _____ Twp. _____ S. R. East West
County: _____ Permit #: KCC

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INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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.

Signature: *[Signature]*
Title: Production Manager Date: 3/8/11

KCC Office Use ONLY

Letter of Confidentiality Received
Date: 3/8/11 - 3/8/11 RECEIVED
 Confidential Release Date: _____
 Wireline Log Received
 Geologist Report Received
 UIC Distribution
ALT I II III Approved by: *[Signature]* Date: _____

MAR 09 2011

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Operator Name: Ritchie Exploration, Inc. Lease Name: Joseph 30CD Well #: 2
 Sec. 30 Twp. 13 S. R. 31 East West County: Gove

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run: Dual Induction Log Compensated Neutron/Density Log	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample Name Top Datum <p style="text-align: center;">SEE ATTACHED</p>
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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	12-1/4"	8-5/8"	23#	222'	common	175	3%cc, 2% gel
Production	7-7/8"	5-1/2"	15.5#	4676'	ASC	200	10% sat, 2% gel, 5#/sx gilsonite

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				CONFIDENTIAL MAR 08 2013 KCC

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4	4260' - 4262' (1/26/11)	500 gals 15% NE	
4	4123.5' - 4127.5' (1/26/11)	500 gals 15% NE	
4	4011.5' - 4014.5' (1/26/11)	350 gals 15% NE	

TUBING RECORD: Size: <u>2-7/8"</u> Set At: <u>4581'</u> Packer At: _____ Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		RECEIVED MAR 09 2011 KCC WICHITA
Date of First, Resumed Production, SWD or ENHR. <u>2/16/11</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>148.04</u>	Gas Mcf _____ Water Bbls. <u>4.57</u>	Gas-Oil Ratio _____ Gravity <u>39</u>

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
---	---	--



#2 Joseph 30CD
335' FSL & 1190' FWL
5' N & 130' W of S/2 S/2 SW Section 30-13S-31W
Gove County, Kansas
API# 15-063-21878-0000
Elevation: GL: 2923', KB: 2933'

<u>Sample Tops</u>			<u>Ref.</u> <u>Well</u>
Anhydrite	2406'	+527	+3
B/Anhydrite	2427'	+506	+5
Heebner	3911'	-978	+1
Lansing	3956'	-1023	+1
LKC "C"	3990'	-1057	+4
Muncie Shale	4107'	-1174	+2
Stark Shale	4192'	-1259	+4
Hush. Shale	4230'	-1297	+7
BKC	4275'	-1342	+7
Marmaton	4292'	-1359	+8
Altamont	4310'	-1377	+6
Pawnee	4399'	-1466	flat
Myric Station	4437'	-1504	flat
Fort Scott	4457'	-1524	-2
Cherokee Shale	4485'	-1552	-1
Johnson	4528'	-1595	-2
B/Johnson	4552'	-1619	-2
Morrow Sand	4564'	-1631	-7
Mississippian	4619'	-1686	-24
RTD	4685'	-1752	

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KCC WICHITA

ALLIED CEMENTING CO., LLC. 040564

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

SERVICE POINT
Medicine Lodge

DATE <i>12/17/10</i>	SEC. <i>30</i>	TWP. <i>13E</i>	RANGE <i>31W</i>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <i>8:30 AM</i>
LEASEE <i>Joseph</i>	WELL # <i>30CD-2</i>	LOCATION <i>Oakley, KS, 165, 2K, 4/1/10</i>	COUNTY <i>Gove</i>	STATE <i>KS</i>			

CONTRACTOR *Adunfin #*
 TYPE OF JOB *Production Casing*
 HOLE SIZE *7 7/8* T.D. *4685*
 CASING SIZE *5 1/2* DEPTH *4676*
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL *Port Collar* DEPTH
 PRES. MAX *1500* MINIMUM *—*
 MEAS. LINE SHOE JOINT *21*

OWNER *Ritchie Expl.*

CEMENT
 AMOUNT ORDERED *250s x 4685' ASC + 10%
 Salt + 2% gel + 5% Kalsol + .75% E.D.-31
 & 500gals ASF*

CEMENT LEFT IN CSG. *21*
 PERFS.
 DISPLACEMENT *111 Bbls Fresh H₂O*

COMMON	@		
POZMIX	@		
GEL	<i>5s x</i>	@ <i>20.00</i>	<i>104.00</i>
CHLORIDE	@		
ASC	<i>250s x</i>	@ <i>18.00</i>	<i>4650.00</i>
<i>Kalsol</i>	<i>1250#</i>	@ <i>.89</i>	<i>112.50</i>
<i>Salt</i>	<i>20s x</i>	@ <i>23.95</i>	<i>479.00</i>
<i>CD-31</i>	<i>176#</i>	@ <i>9.35</i>	<i>1645.00</i>
<i>ASF</i>	<i>500gals</i>	@ <i>1.27</i>	<i>635.00</i>

EQUIPMENT
 PUMP TRUCK CEMENTER *Dfelio*
 # *414302* HELPER *R. Romans*
 BULK TRUCK
 # *344-112* DRIVER *K. Wieghouse*
 BULK TRUCK
 # DRIVER

HANDLING *311 s x* @ *2.40* *746.40*
 MILEAGE *20 x 10 x 311* *622.00*
 TOTAL *10186.00*

REMARKS:

*Pipe on Btm, Break Line, Pump Preflush,
 Plug Rat & Mouse holes w/ 50s x Cement,
 Mix 200s x ASC cement, Stop Pump, Wash
 Pump & Lines, Release Plug, Start Disp. w/
 Fresh H₂O, See Steady increase in PSI,
 Slow Rate, Bump Plug at 111 Bbls total
 Disp., Release PSI, Float Did Hold*

SERVICE

DEPTH OF JOB	<i>4676</i>		
PUMP TRUCK CHARGE			<i>2185.00</i>
EXTRA FOOTAGE	@		
MILEAGE	<i>20</i>	@ <i>7.00</i>	<i>140.00</i>
MANIFOLD <i>Head Rental</i>	@		

CHARGE TO: *Ritchie Exploration*
 STREET _____
 CITY _____ STATE _____ ZIP _____

TOTAL *2325.00*

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PLUG & FLOAT EQUIPMENT

<i>1- Guide Shoe</i>		<i>101.00</i>
<i>1- AFU insert</i>	@	<i>112.00</i>
<i>1- (weatherford) Basket</i>	@	<i>186.00</i>
<i>3- cement Baskets</i>	@ <i>161.00</i>	<i>483.00</i>
<i>7- turbolizers</i>	@ <i>42.00</i>	<i>294.00</i>
<i>1- Port Collar</i>	@	<i>1750.00</i>
<i>1- TRP</i>		<i>67.00</i>
TOTAL		<i>2993.00</i>

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.

SALES TAX (If Any) _____
 TOTAL CHARGES *[scribble]*
 DISCOUNT _____ IF PAID IN 30 DAYS

PRINTED NAME _____
 SIGNATURE *Thomas A. [scribble]*

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KCC WICHITA

ALLIED CEMENTING CO., LLC. 040864

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

SERVICE POINT:

Oakley

DATE <u>12-22-10</u>	SEC. <u>30</u>	TWP. <u>13</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION	JOB START <u>1:00pm</u>	JOB FINISH <u>1:30pm</u>
LEASE <u>Joseph 305</u>	WELL # <u>#2</u>	LOCATION <u>Oakley Kas 2 1/2 E</u>		COUNTY <u>Gove</u>	STATE <u>Ks</u>		
OLD OR (NEW) (Circle one)		NINTO					

CONTRACTOR Ultimate well service
 TYPE OF JOB Port collar
 HOLE SIZE _____ T.D. _____
 CASING SIZE 5/2 DEPTH _____
 TUBING SIZE 2 7/8 DEPTH 2386
 DRILL PIPE _____ DEPTH _____
 TOOL port collar DEPTH 2386'
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. _____
 PERFS. _____
 DISPLACEMENT _____

OWNER S.
 CEMENT
 AMOUNT ORDERED 400 sks 6940 6896
1/4 flo-seal 500# hulls
used 350 sks 250# hulls
 COMMON 210 sks @ 15.45 3244.50
 POZMIX 140 sks @ 8.00 1120.00
 GEL 18 sks @ 20.80 374.40
 CHLORIDE @ _____
 ASC @ _____
 _____ @ _____
Flo-seal 87# @ 2.50 217.50
 _____ @ _____
Hulls 250# 5 sks @ 31.85 159.25
 _____ @ _____
 _____ @ _____
 HANDLING 425 sks @ 2.40 1020.00
 MILEAGE 104 sks/mile 850.00
 TOTAL 6985.65

EQUIPMENT

PUMP TRUCK CEMENTER Andrew
 # 429-281 HELPER Larone
 BULK TRUCK
 # 394 DRIVER Jerry
 BULK TRUCK
 # _____ DRIVER _____

REMARKS:

Pressure to 1200# Open port collar
Mix 350 sks 6940 with 250# hulls
Displace. Close port collar
Pressure to 1200# Run 5 Brms
Reverse Clean.
Cement did circulate

Thank you

CHARGE TO: Ritchie Exploration
 STREET _____
 CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB 2386'
 PUMP TRUCK CHARGE _____ 1185.00
 EXTRA FOOTAGE @ _____
 MILEAGE 20 miles @ 7.00 140.00
 MANIFOLD @ _____
 _____ @ _____
 _____ @ _____

TOTAL 1325.00

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PLUG & FLOAT EQUIPMENT

_____ @ _____
 _____ @ _____
 _____ @ _____
 _____ @ _____
 _____ @ _____

TOTAL _____

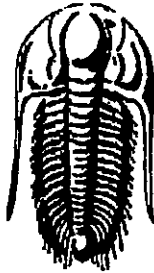
SALES TAX (If Any) _____
 TOTAL CHARGES _____
 DISCOUNT _____ IF PAID IN 30 DAYS

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 Thomas A. Atkins
 SIGNATURE Thomas Atkins

R

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 KCC WICHITA



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

Joseph 30CD #2

Start Date: 2010.12.09 @ 21:31:11

End Date: 2010.12.10 @ 04:18:50

Job Ticket #: 040489 DST #: 1

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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

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Printed: 2010.12.29 @ 19:18:03 Page 1

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Ritchie Exploration

Joseph 30CD #2

30-13-31w Gove,KS

DST # 1

Lansing G

2010.12.09



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040489

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2010.12.09 @ 21:31:11

GENERAL INFORMATION:

Formation: **Lansing G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:17:06

Time Test Ended: 04:18:50

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: 3979.00 ft (KB) To 4002.00 ft (KB) (TVD)

Total Depth: 4002.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2933.00 ft (KB)

2923.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8373

Inside

Press@RunDepth: 295.67 psig @ 3980.00 ft (KB)

Start Date: 2010.12.09

End Date:

2010.12.10

Capacity: 8000.00 psig

Last Calib.: 2010.12.10

Start Time: 21:31:11

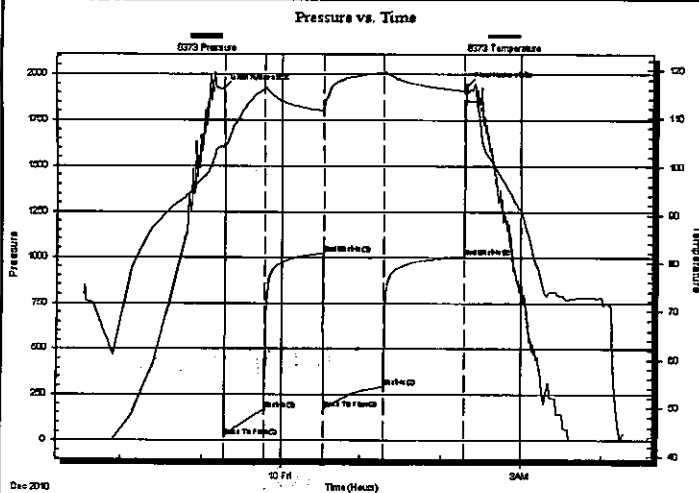
End Time:

04:18:50

Time On Btm: 2010.12.09 @ 23:16:06

Time Off Btm: 2010.12.10 @ 02:19:20

TEST COMMENT: IF: 1/4 blow BOB in 18 min.
IS: No return.
FF: Surface blow BOB in 22 min.
FS: Weak surface blow never built.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1920.61	104.13	Initial Hydro-static
1	22.07	104.50	Open To Flow (1)
31	167.81	116.05	Shut-In(1)
76	1019.90	111.66	End Shut-In(1)
77	172.89	111.23	Open To Flow (2)
121	295.67	119.48	Shut-In(2)
182	1005.87	115.82	End Shut-In(2)
184	1940.27	113.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
599.00	mcw 90%w 10%m	3.50
1.00	Free oil 100%o	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040489

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2010.12.09 @ 21:31:11

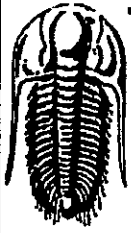
Tool Information

Drill Pipe:	Length: 3423.00 ft	Diameter: 3.80 inches	Volume: 48.02 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 50.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3979.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			3952.00	
Shut In Tool	5.00			3957.00	
Hydraulic tool	5.00			3962.00	
Jars	5.00			3967.00	
Safety Joint	3.00			3970.00	
Packer	5.00			3975.00	28.00 Bottom Of Top Packer
Packer	4.00			3979.00	
Stubb	1.00			3980.00	
Recorder	0.00	8373	Inside	3980.00	
Recorder	0.00	8289	Outside	3980.00	
Perforations	17.00			3997.00	
Bullnose	5.00			4002.00	23.00 Bottom Packers & Anchor
Total Tool Length:	51.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040489

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2010.12.09 @ 21:31:11

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:

43000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
599.00	mcw 90%w 10%m	3.501
1.00	Free oil 100%o	0.014

Total Length: 600.00 ft Total Volume: 3.515 bbl

Num Fluid Samples: 0

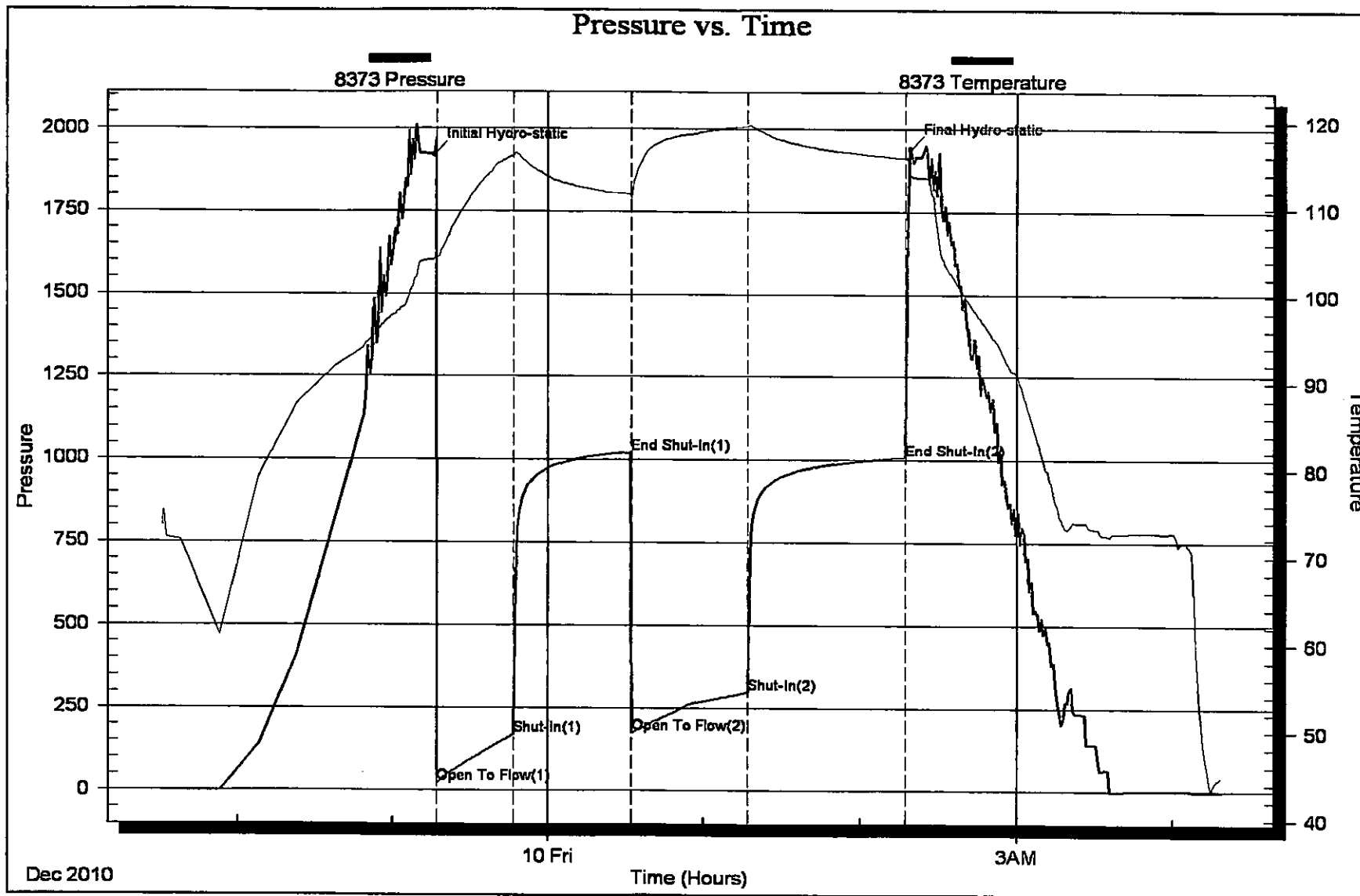
Num Gas Bombs: 0

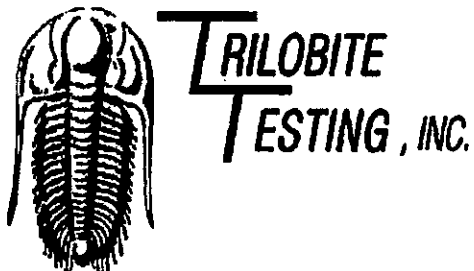
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .20@61=43000





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

Joseph 30CD #2

Start Date: 2010.12.10 @ 14:14:41

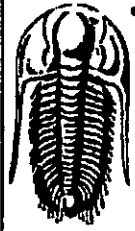
End Date: 2010.12.10 @ 21:34:05

Job Ticket #: 040490 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND ST N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040490

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2010.12.10 @ 14:14:41

Tool Information

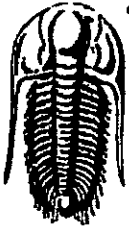
Drill Pipe:	Length: 3457.00 ft	Diameter: 3.80 inches	Volume: 48.49 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 90000.00 lb
		Total Volume:	51.14 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4000.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	71.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			3976.00	
Shut In Tool	5.00			3981.00	
Hydraulic tool	5.00			3986.00	
Jars	5.00			3991.00	
Packer	5.00			3996.00	25.00 Bottom Of Top Packer
Packer	4.00			4000.00	
Stubb	1.00			4001.00	
Recorder	0.00	8373	Inside	4001.00	
Recorder	0.00	8289	Outside	4001.00	
Perforations	6.00			4007.00	
Change Over Sub	1.00			4008.00	
Drill Pipe	32.00			4040.00	
Change Over Sub	1.00			4041.00	
Bullnose	5.00			4046.00	46.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040490

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2010.12.10 @ 14:14:41

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil APt

40 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

48000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.16 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
93.00	gocmw 10%g 30%o 30%w 30%m	0.457
93.00	mcgo 20%g 60%o 20%m	0.457
279.00	mcgo 10%g 60%o 30%m	1.372
279.00	mcgo 30%g 40%o 30%m	3.249
124.00	go 29%g 80%o	1.739
0.00	527GIP	0.000

Total Length: 868.00 ft Total Volume: 7.274 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

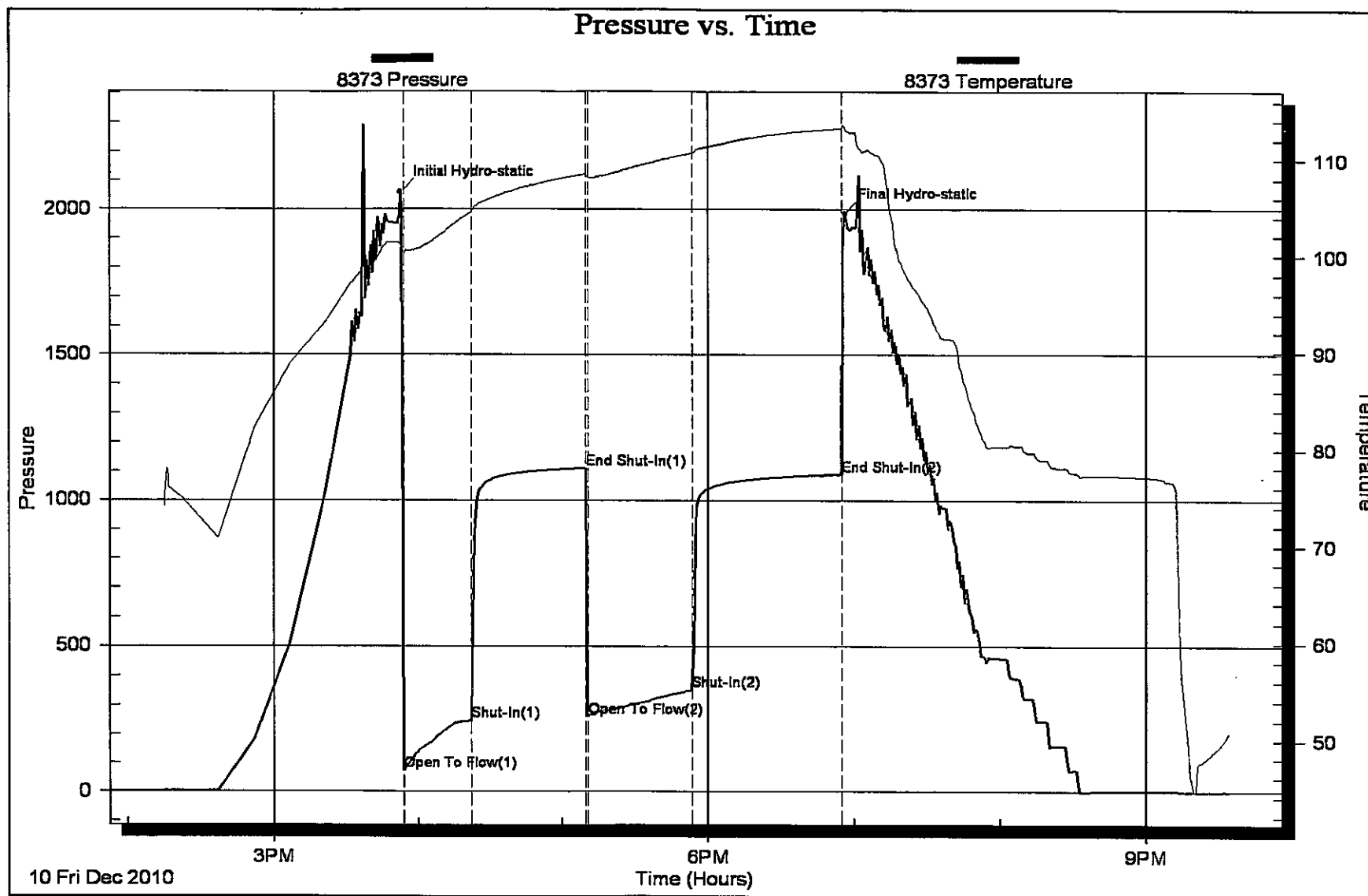
Serial #:

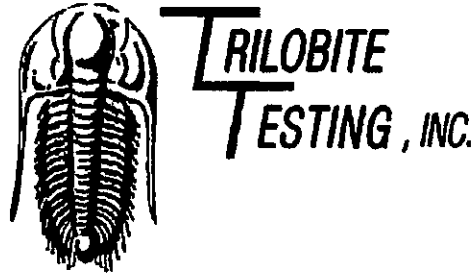
Laboratory Name:

Laboratory Location:

Recovery Comments: API 38@40=40

RW .28@40=48000





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

Joseph 30CD #2

Start Date: 2010.12.11 @ 14:27:18

End Date: 2010.12.11 @ 21:19:27

Job Ticket #: 040491 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

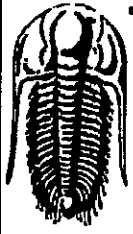
Joseph 30CD #2

30-13-31w Gove,KS

DST # 3

Lansing H

2010.12.11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040491

DST#: 3

ATTN: Mike Engelbrecht

Test Start: 2010.12.11 @ 14:27:18

GENERAL INFORMATION:

Formation: Lansing H

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:16:13

Time Test Ended: 21:19:27

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: 4098.00 ft (KB) To 4136.00 ft (KB) (TVD)

Total Depth: 4136.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2933.00 ft (KB)

2923.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8373

Inside

Press@RunDepth: 138.05 psig @ 4099.00 ft (KB)

Start Date: 2010.12.11

End Date:

2010.12.11

Start Time: 14:27:18

End Time:

21:19:27

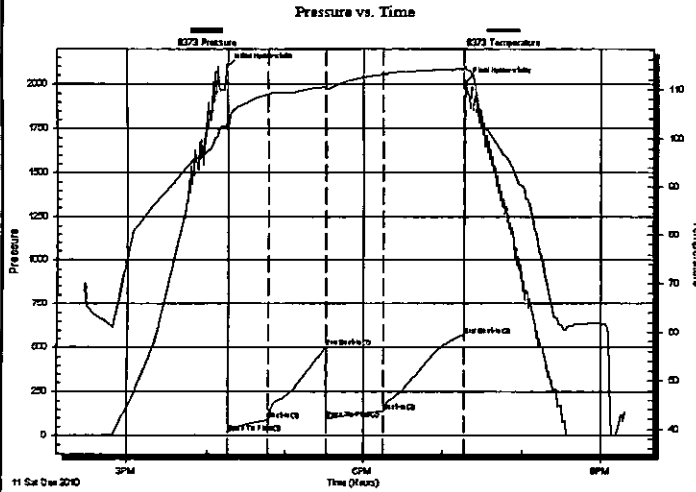
Capacity: 8000.00 psig

Last Calib.: 2010.12.11

Time On Btm: 2010.12.11 @ 16:15:28

Time Off Btm: 2010.12.11 @ 19:17:42

TEST COMMENT: IF: 1/4 blow BOB in 12 min.
IS: Surface blow built to 1 in 45 min.
FF: 1/4 blow BOB in 23 min.
FS: Surface blow built to 4 in 60 min.



PRESSURE SUMMARY

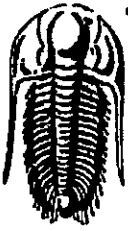
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2095.41	102.93	Initial Hydro-static
1	17.22	102.26	Open To Flow (1)
32	89.85	108.98	Shut-In (1)
76	504.35	110.56	End Shut-In (1)
77	96.98	110.32	Open To Flow (2)
121	138.05	113.06	Shut-In (2)
182	572.34	114.06	End Shut-In (2)
183	2012.31	114.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	gocm 30%g 30%o 40%m	0.91
186.00	go 20%g 80%o	0.91
0.00	372 GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040491

DST#: 3

ATTN: Mike Engelbrecht

Test Start: 2010.12.11 @ 14:27:18

Tool Information

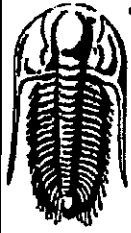
Drill Pipe:	Length: 3545.00 ft	Diameter: 3.80 inches	Volume: 49.73 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 52.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4098.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	61.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4076.00	
Shut In Tool	5.00			4081.00	
Hydraulic tool	5.00			4086.00	
Safety Joint	3.00			4089.00	
Packer	5.00			4094.00	23.00 Bottom Of Top Packer
Packer	4.00			4098.00	
Stubb	1.00			4099.00	
Recorder	0.00	8373	Inside	4099.00	
Recorder	0.00	8289	Outside	4099.00	
Perforations	32.00			4131.00	
Bullnose	5.00			4136.00	38.00 Bottom Packers & Anchor

Total Tool Length: 61.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040491

DST#: 3

ATTN: Mike Engelbrecht

Test Start: 2010.12.11 @ 14:27:18

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.94 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

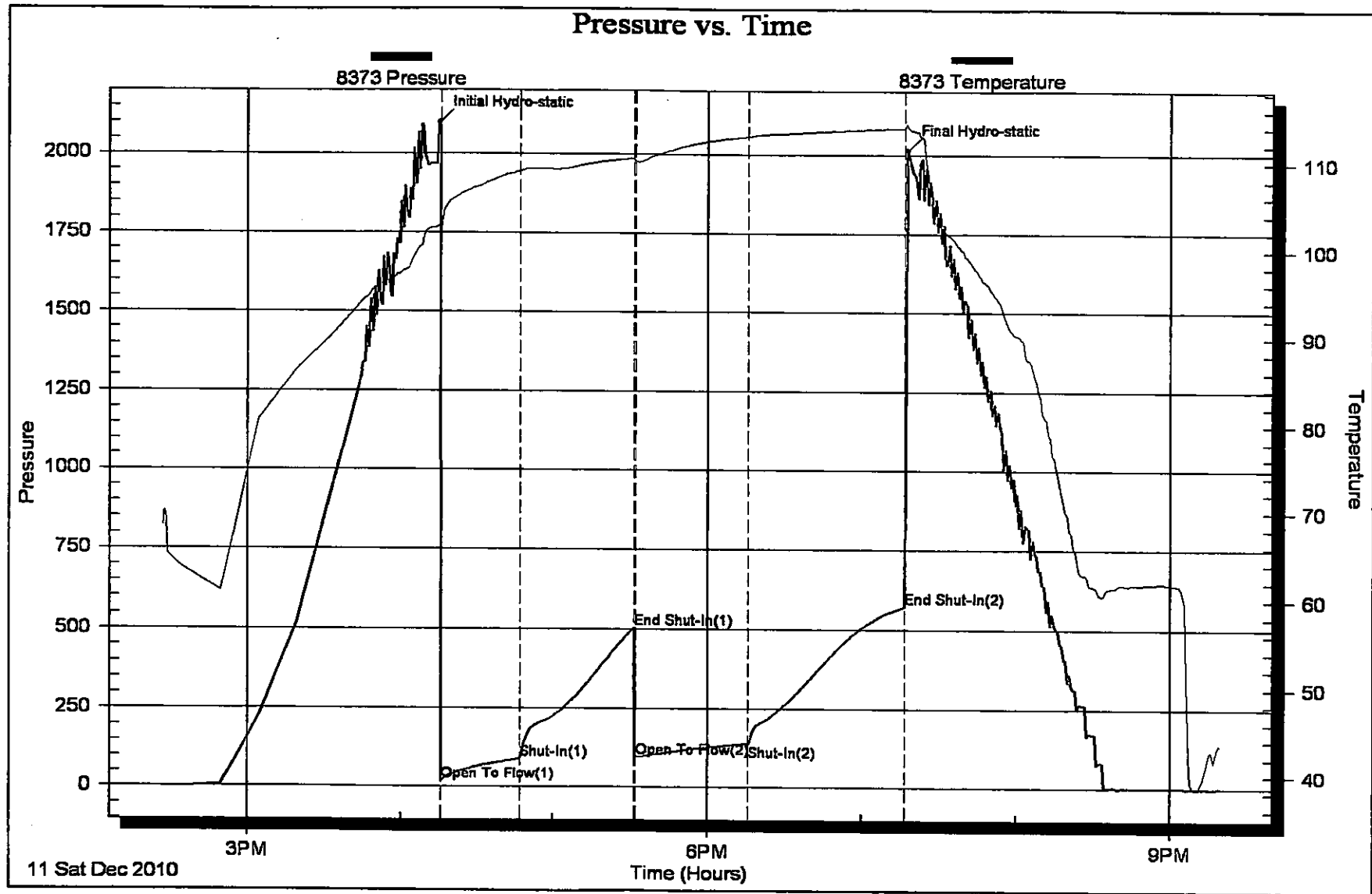
Length ft	Description	Volume bbl
186.00	gocm 30%g 30%o 40%m	0.915
186.00	go 20%g 80%o	0.915
0.00	372 GIP	0.000

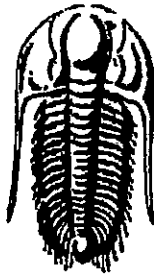
Total Length: 372.00ft Total Volume: 1.830 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: 35@20=39





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**
8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

Joseph 30CD #2

Start Date: 2010.12.12 @ 08:23:15
End Date: 2010.12.12 @ 15:21:24
Job Ticket #: 040492 DST #: 4

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Ritchie Exploration
Joseph 30CD #2
30-13-31w Gove,KS
DST # 4
Lansing J
2010.12.12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration
8100 E 22ND St N 700
Wichita, KS 67278
ATTN: Mike Engelbrecht

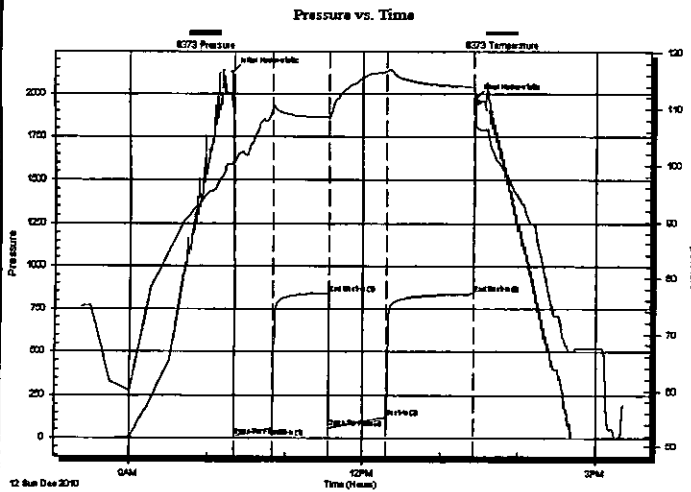
Joseph 30CD #2
30-13-31w Gove,KS
Job Ticket: 040492 DST#: 4
Test Start: 2010.12.12 @ 08:23:15

GENERAL INFORMATION:

Formation: **Lansing J**
 Deviated: **No** Whipstock: ft (KB)
 Time Tool Opened: 10:20:10
 Time Test Ended: 15:21:24
 Interval: **4164.00 ft (KB) To 4195.00 ft (KB) (TVD)**
 Total Depth: **4195.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Good**
 Test Type: **Conventional Bottom Hole**
 Tester: **Brandon Turley**
 Unit No: **35**
 Reference Elevations: **2933.00 ft (KB)**
2923.00 ft (CF)
 KB to GR/CF: **10.00 ft**

Serial #: 8373 Inside
 Press@RunDepth: **123.36 psig @ 4165.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2010.12.12** End Date: **2010.12.12** Last Calib.: **2010.12.12**
 Start Time: **08:23:15** End Time: **15:21:24** Time On Btm: **2010.12.12 @ 10:18:55**
 Time Off Btm: **2010.12.12 @ 13:27:09**

TEST COMMENT: IF: 1/4 blow built to 4 in
 IS: No return.
 FF: Surface blow built to 5 in
 FS: No return.



PRESSURE SUMMARY

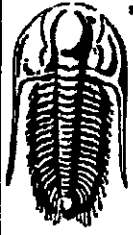
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2126.02	100.32	Initial Hydro-static
2	12.69	100.56	Open To Flow (1)
32	58.79	109.97	Shut-In(1)
76	842.88	108.73	End Shut-In(1)
76	61.92	108.24	Open To Flow (2)
120	123.36	116.69	Shut-In(2)
187	838.02	113.98	End Shut-In(2)
189	1978.12	107.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	mcw 90%w 10%m	0.91
60.00	w cm 20%w 80%m	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040492

DST#: 4

ATTN: Mike Engelbrecht

Test Start: 2010.12.12 @ 08:23:15

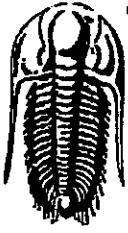
Tool Information

Drill Pipe:	Length: 3609.00 ft	Diameter: 3.80 inches	Volume: 50.62 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 53.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4164.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 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
Stubb	1.00			4142.00	
Shut In Tool	5.00			4147.00	
Hydraulic tool	5.00			4152.00	
Safety Joint	3.00			4155.00	
Packer	5.00			4160.00	23.00 Bottom Of Top Packer
Packer	4.00			4164.00	
Stubb	1.00			4165.00	
Recorder	0.00	8373	Inside	4165.00	
Recorder	0.00	8289	Outside	4165.00	
Perforations	25.00			4190.00	
Bullnose	5.00			4195.00	31.00 Bottom Packers & Anchor

Total Tool Length: 54.00



**TRIOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040492

DST#: 4

ATTN: Mike Engelbrecht

Test Start: 2010.12.12 @ 08:23:15

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:

37000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.15 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
186.00	mcw 90%w 10%m	0.915
60.00	w cm 20%w 80%m	0.295

Total Length: 246.00 ft

Total Volume: 1.210 bbf

Num Fluid Samples: 0

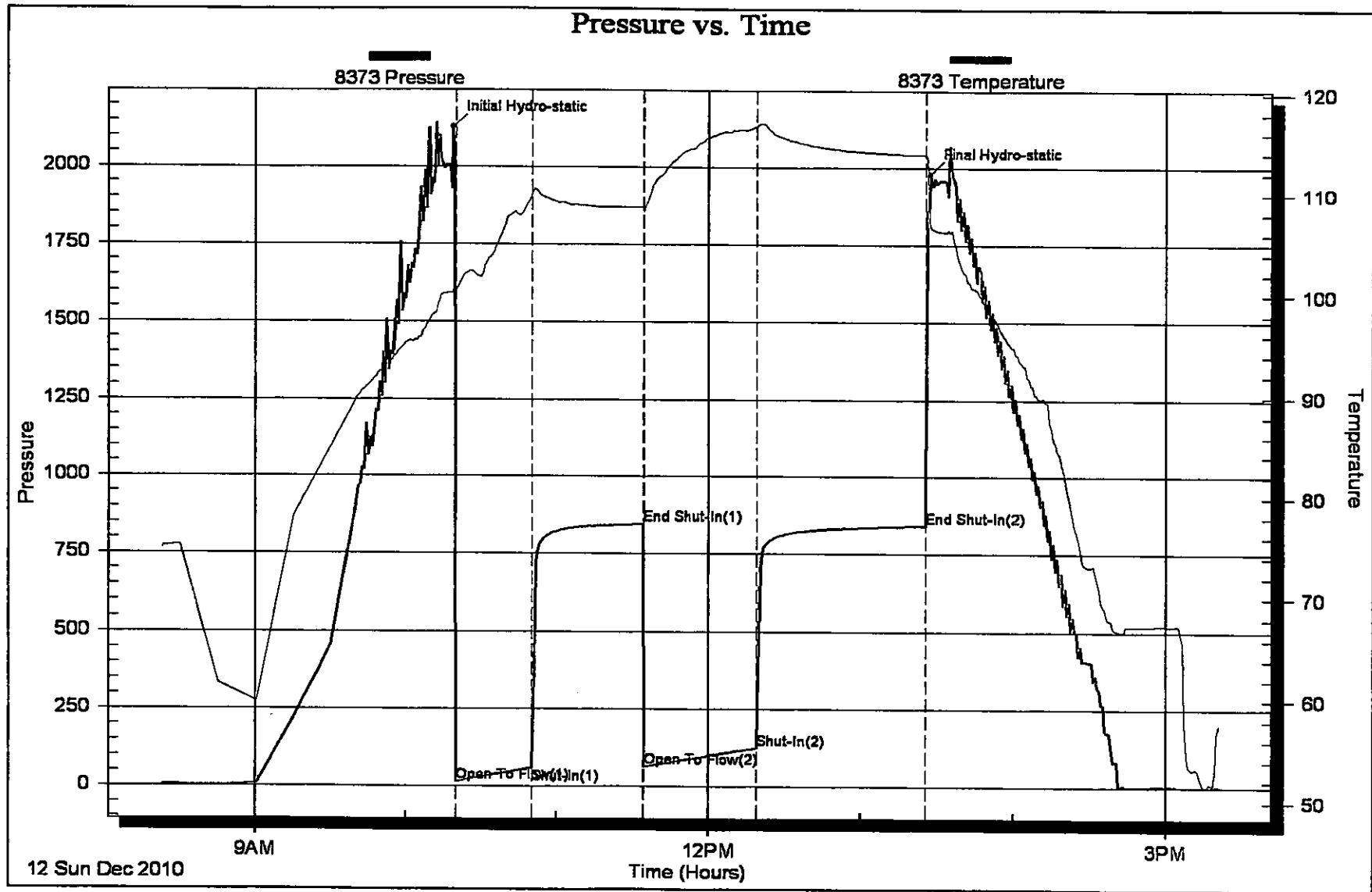
Num Gas Bombs: 0

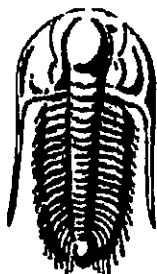
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .2@69=37000





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

Joseph 30CD #2

Start Date: 2010.12.12 @ 22:15:07

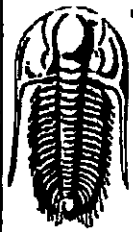
End Date: 2010.12.13 @ 05:41:46

Job Ticket #: 040493 DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration
8100 E 22ND St N 700
Wichita, KS 67278
ATTN: Mike Engelbrecht

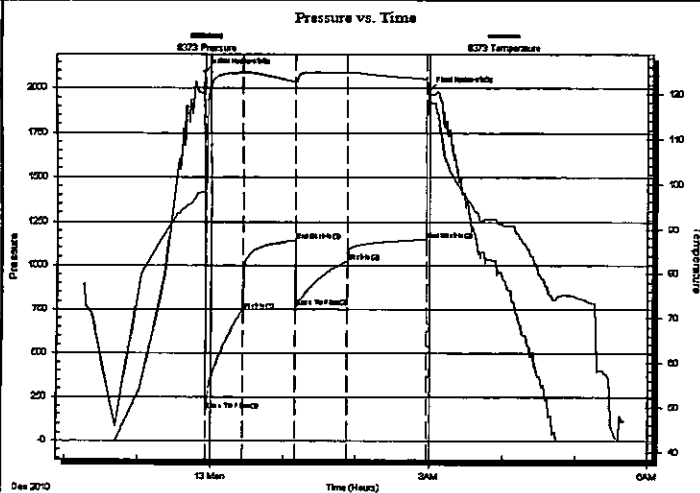
Joseph 30CD #2
30-13-31w Gove,KS
Job Ticket: 040493 DST#: 5
Test Start: 2010.12.12 @ 22:15:07

GENERAL INFORMATION:

Formation: **Lansing K**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole
 Time Tool Opened: 23:55:17
 Tester: Brandon Turley
 Time Test Ended: 05:41:46
 Unit No: 35
 Interval: **4190.00 ft (KB) To 4220.00 ft (KB) (TVD)**
 Reference Elevations: 2933.00 ft (KB)
 Total Depth: 4220.00 ft (KB) (TVD)
 2923.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 10.00 ft

Serial #: **8373** Inside
 Press@RunDepth: 1021.80 psig @ 4191.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2010.12.12 End Date: 2010.12.13 Last Calib.: 2010.12.13
 Start Time: 22:15:07 End Time: 05:41:46 Time On Btm: 2010.12.12 @ 23:54:02
 Time Off Btm: 2010.12.13 @ 02:58:46

TEST COMMENT: IF: BOB in 1 min.
 IS: No return.
 FF: BOB in 3 min.
 FS: No return.



PRESSURE SUMMARY

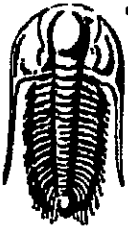
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2090.05	98.50	Initial Hydro-static
2	172.96	98.96	Open To Flow (1)
32	744.73	124.61	Shut-In(1)
75	1137.50	122.83	End Shut-In(1)
76	764.40	122.60	Open To Flow (2)
119	1021.80	124.62	Shut-In(2)
184	1144.93	123.29	End Shut-In(2)
185	1985.79	119.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1767.00	water 100%w	19.89
422.00	w cm 20%w 80%m	5.92

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

ATTN: Mike Engelbrecht

Job Ticket: 040493

DST#: 5

Test Start: 2010.12.12 @ 22:15:07

Tool Information

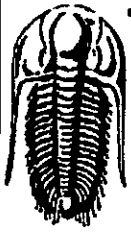
Drill Pipe:	Length: 3640.00 ft	Diameter: 3.80 inches	Volume: 51.06 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 53.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4190.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serlal No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4168.00	
Shut In Tool	5.00			4173.00	
Hydraulic tool	5.00			4178.00	
Safety Joint	3.00			4181.00	
Packer	5.00			4186.00	23.00 Bottom Of Top Packer
Packer	4.00			4190.00	
Stubb	1.00			4191.00	
Recorder	0.00	8373	Inside	4191.00	
Recorder	0.00	8289	Outside	4191.00	
Perforations	24.00			4215.00	
Bullnose	5.00			4220.00	30.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040493

DST#: 5

ATTN: Mike Engelbrecht

Test Start: 2010.12.12 @ 22:15:07

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:

42000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.16 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1767.00	water 100%w	19.885
422.00	w cm 20%w 80%m	5.920

Total Length: 2189.00 ft Total Volume: 25.805 bbl

Num Fluid Samples: 0

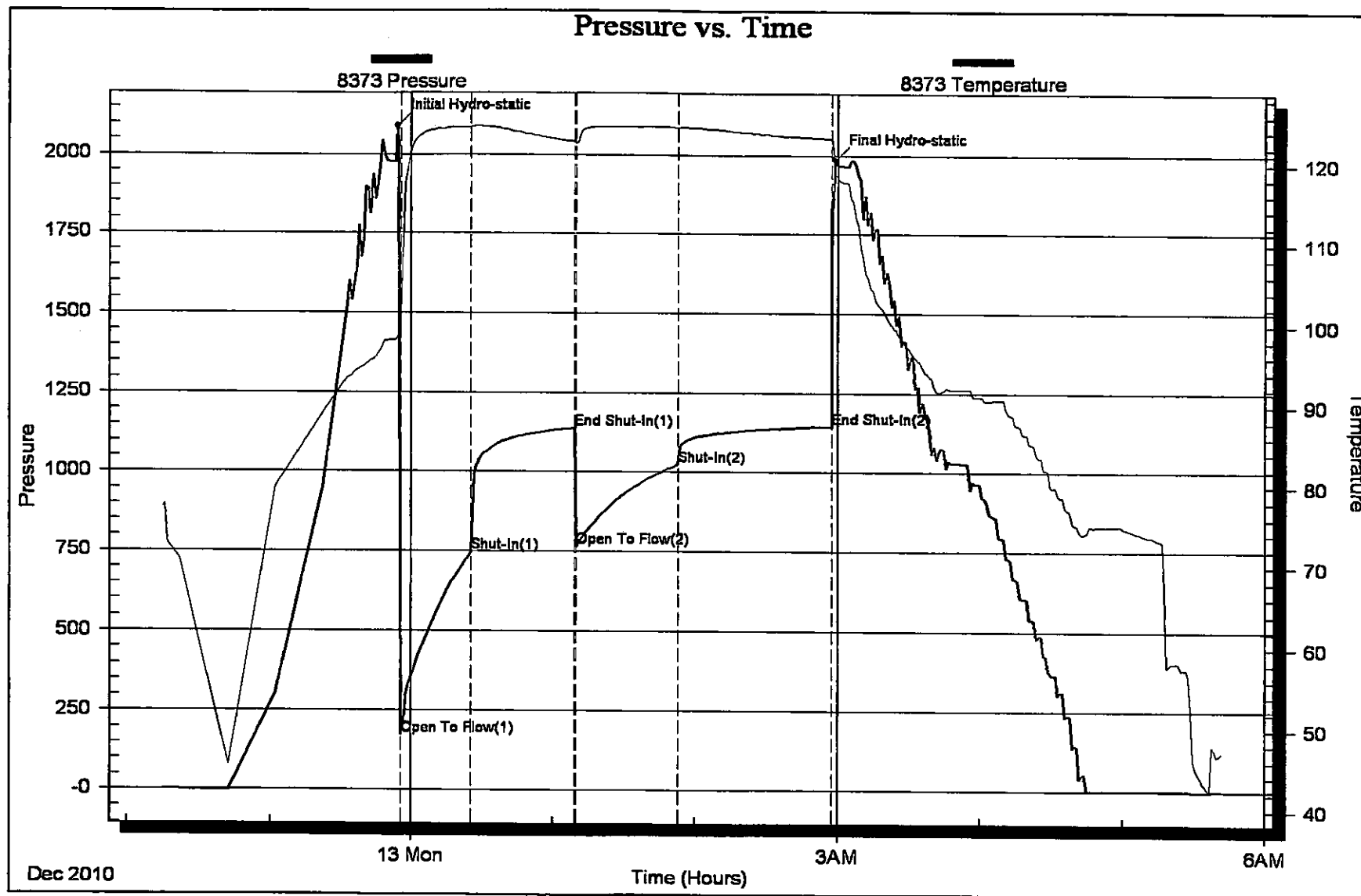
Num Gas Bombs: 0

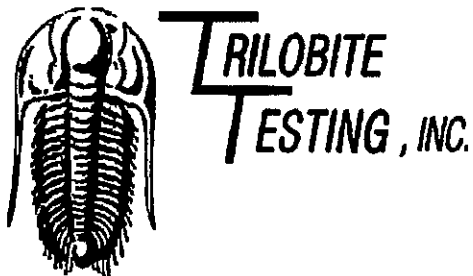
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .21@59=42000





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**
8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

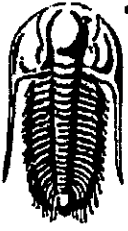
Joseph 30CD #2

Start Date: 2010.12.13 @ 14:15:21

End Date: 2010.12.13 @ 21:51:15

Job Ticket #: 040494 DST #: 6

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND ST N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040494

DST#: 6

ATTN: Mike Engelbrecht

Test Start: 2010.12.13 @ 14:15:21

GENERAL INFORMATION:

Formation: **Lansing L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:59:46

Time Test Ended: 21:51:15

Test Type: Conventional Bottom Hole

Tester: Brandon Turley

Unit No: 35

Interval: 4227.00 ft (KB) To 4270.00 ft (KB) (TVD)

Total Depth: 4270.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2933.00 ft (KB)

2923.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8373

Inside

Press@RunDepth: 75.24 psig @ 4228.00 ft (KB)

Start Date: 2010.12.13

End Date:

2010.12.13

Start Time: 14:15:21

End Time:

21:51:15

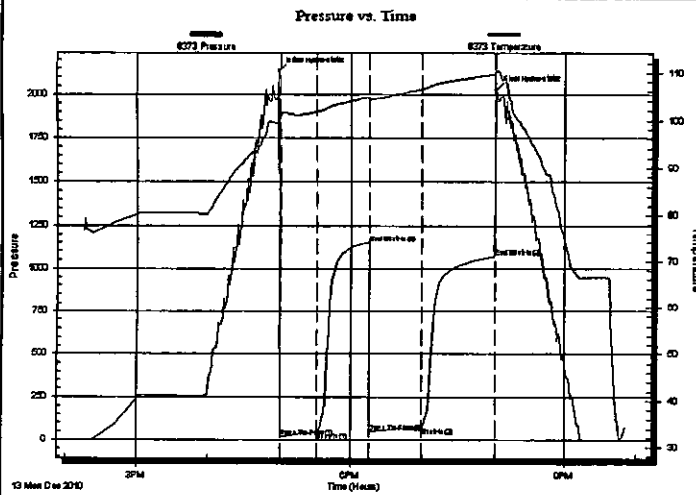
Capacity: 8000.00 psig

Last Calib.: 2010.12.13

Time On Btm: 2010.12.13 @ 16:58:31

Time Off Btm: 2010.12.13 @ 20:01:45

TEST COMMENT: IF: 1/4 blow built to 7 in
IS: No return.
FF: 1/4 blow BOB in 35 min.
FS: Surface blow built to 1 in



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2133.57	99.61	Initial Hydro-static
2	16.32	100.44	Open To Flow (1)
32	44.52	101.76	Shut-In(1)
76	1150.50	104.88	End Shut-In(1)
77	48.44	104.42	Open To Flow (2)
121	75.24	106.58	Shut-In(2)
183	1067.31	109.57	End Shut-In(2)
184	2025.84	110.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
93.00	gocm 10%g 20%o 70%m	0.46
93.00	go 20%g 80%o	0.46
0.00	372' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

ATTN: Mike Engelbrecht

Job Ticket: 040494

DST#: 6

Test Start: 2010.12.13 @ 14:15:21

Tool Information

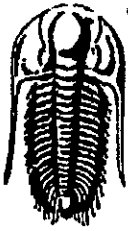
Drill Pipe:	Length: 3669.00 ft	Diameter: 3.80 inches	Volume: 51.47 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 95000.00 lb
		Total Volume:	54.12 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4227.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	66.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4205.00	
Shut In Tool	5.00			4210.00	
Hydraulic tool	5.00			4215.00	
Safety Joint	3.00			4218.00	
Packer	5.00			4223.00	23.00 Bottom Of Top Packer
Packer	4.00			4227.00	
Stubb	1.00			4228.00	
Recorder	0.00	8373	Inside	4228.00	
Recorder	0.00	8289	Outside	4228.00	
Perforations	4.00			4232.00	
Change Over Sub	1.00			4233.00	
Drill Pipe	31.00			4264.00	
Change Over Sub	1.00			4265.00	
Bullnose	5.00			4270.00	43.00 Bottom Packers & Anchor

Total Tool Length: 66.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040494

DST#: 6

ATTN: Mike Engelbrecht

Test Start: 2010.12.13 @ 14:15:21

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.76 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
93.00	gocm 10%g 20%o 70%m	0.457
93.00	go 20%g 80%o	0.457
0.00	372' GIP	0.000

Total Length: 186.00 ft

Total Volume: 0.914 bbl

Num Fluid Samples: 0

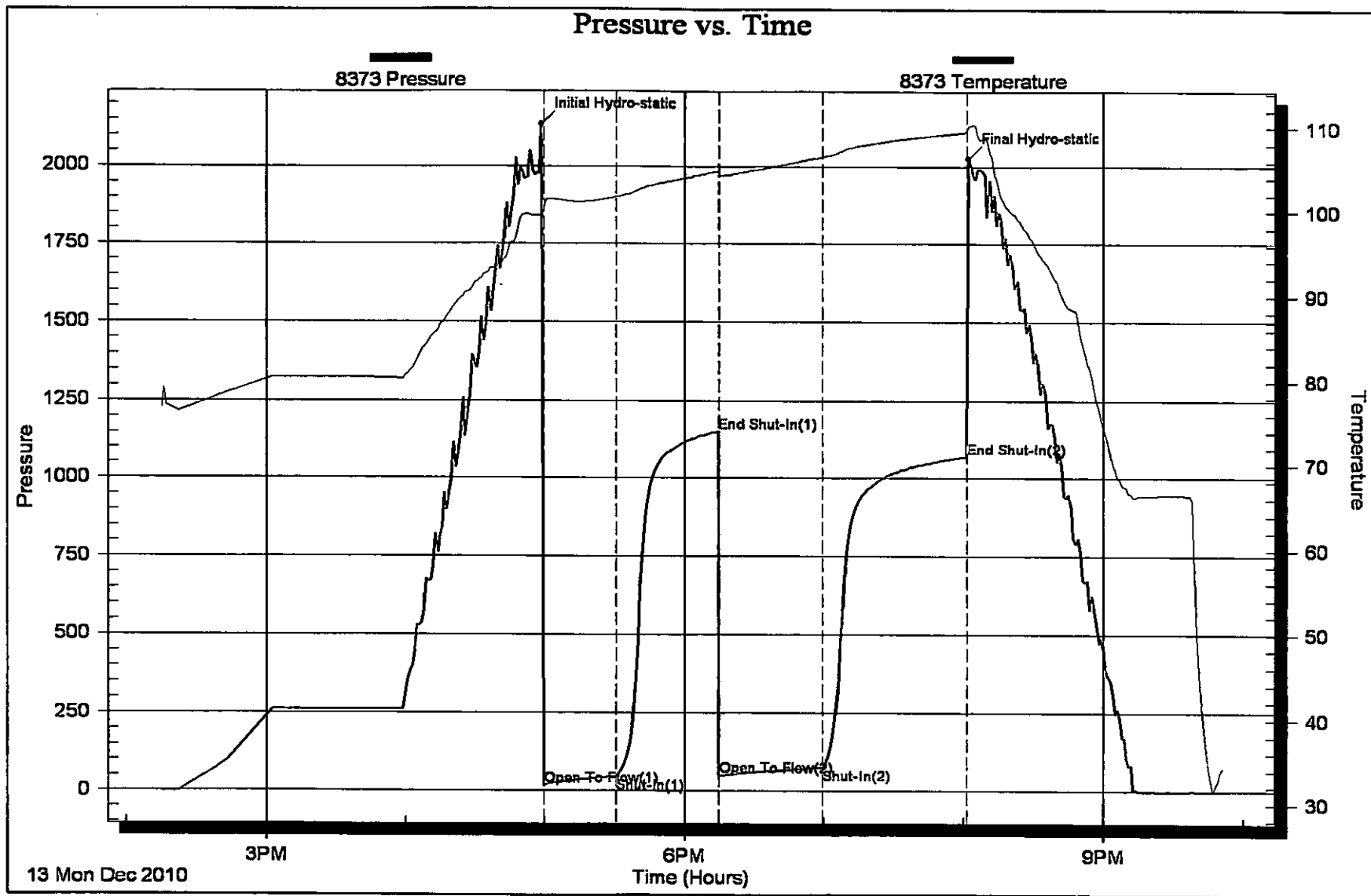
Num Gas Bombs: 0

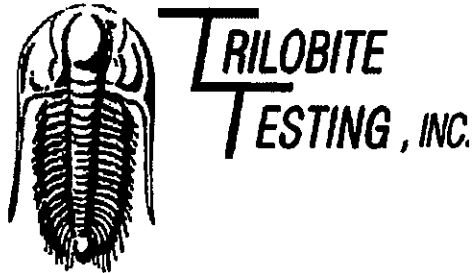
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 29@50=30





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**
8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

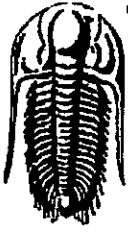
Joseph 30CD #2

Start Date: 2010.12.14 @ 17:35:31

End Date: 2010.12.14 @ 23:40:10

Job Ticket #: 040495 DST #: 7

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration
8100 E 22ND St N 700
Wichita, KS 67278
ATTN: Mike Engelbrecht

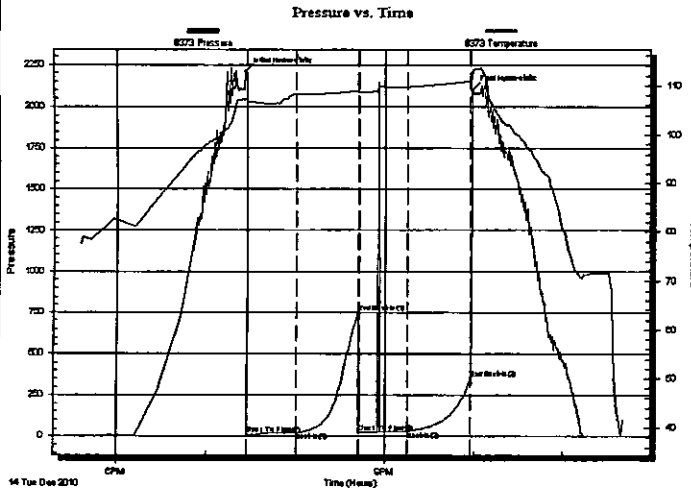
Joseph 30CD #2
30-13-31w Gove,KS
Job Ticket: 040495 DST#: 7
Test Start: 2010.12.14 @ 17:35:31

GENERAL INFORMATION:

Formation: Myrick
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:27:26
Time Test Ended: 23:40:10
Interval: 4425.00 ft (KB) To 4449.00 ft (KB) (TVD)
Total Depth: 4449.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole
Tester: Brandon Turley
Unit No: 35
Reference Elevations: 2933.00 ft (KB)
2923.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8373 Inside
Press@RunDepth: 30.69 psig @ 4426.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2010.12.14 End Date: 2010.12.14 Last Calib.: 2010.12.14
Start Time: 17:35:31 End Time: 23:40:10 Time On Btm: 2010.12.14 @ 19:26:26
Time Off Btm: 2010.12.14 @ 21:58:40

TEST COMMENT: IF: 1/4 blow built to 1 1/2 in
IS: No return.
FF: No blow . Flushed tool surface blow died in 5 min.
FS: No return.



PRESSURE SUMMARY

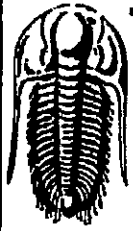
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2209.68	107.18	Initial Hydro-static
1	14.46	106.20	Open To Flow (1)
34	22.44	108.24	Shut-In(1)
76	750.82	108.93	End Shut-In(1)
77	24.52	108.59	Open To Flow (2)
109	30.69	109.68	Shut-In(2)
152	349.34	110.87	End Shut-In(2)
153	2101.97	112.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud oil spots 100% m	0.10

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040495

DST#: 7

ATTN: Mike Engelbrecht

Test Start: 2010.12.14 @ 17:35:31

Tool Information

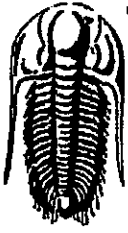
Drill Pipe:	Length: 3892.00 ft	Diameter: 3.80 inches	Volume: 54.59 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 95000.00 lb
			Total Volume: 57.24 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	4425.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4403.00	
Shut In Tool	5.00			4408.00	
Hydraulic tool	5.00			4413.00	
Safety Joint	3.00			4416.00	
Packer	5.00			4421.00	23.00 Bottom Of Top Packer
Packer	4.00			4425.00	
Stubb	1.00			4426.00	
Recorder	0.00	8373	Inside	4426.00	
Recorder	0.00	8289	Outside	4426.00	
Perforations	18.00			4444.00	
Bullnose	5.00			4449.00	24.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove,KS

Job Ticket: 040495

DST#: 7

ATTN: Mike Engelbrecht

Test Start: 2010.12.14 @ 17:35:31

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
20.00	mud oil spots 100%m	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

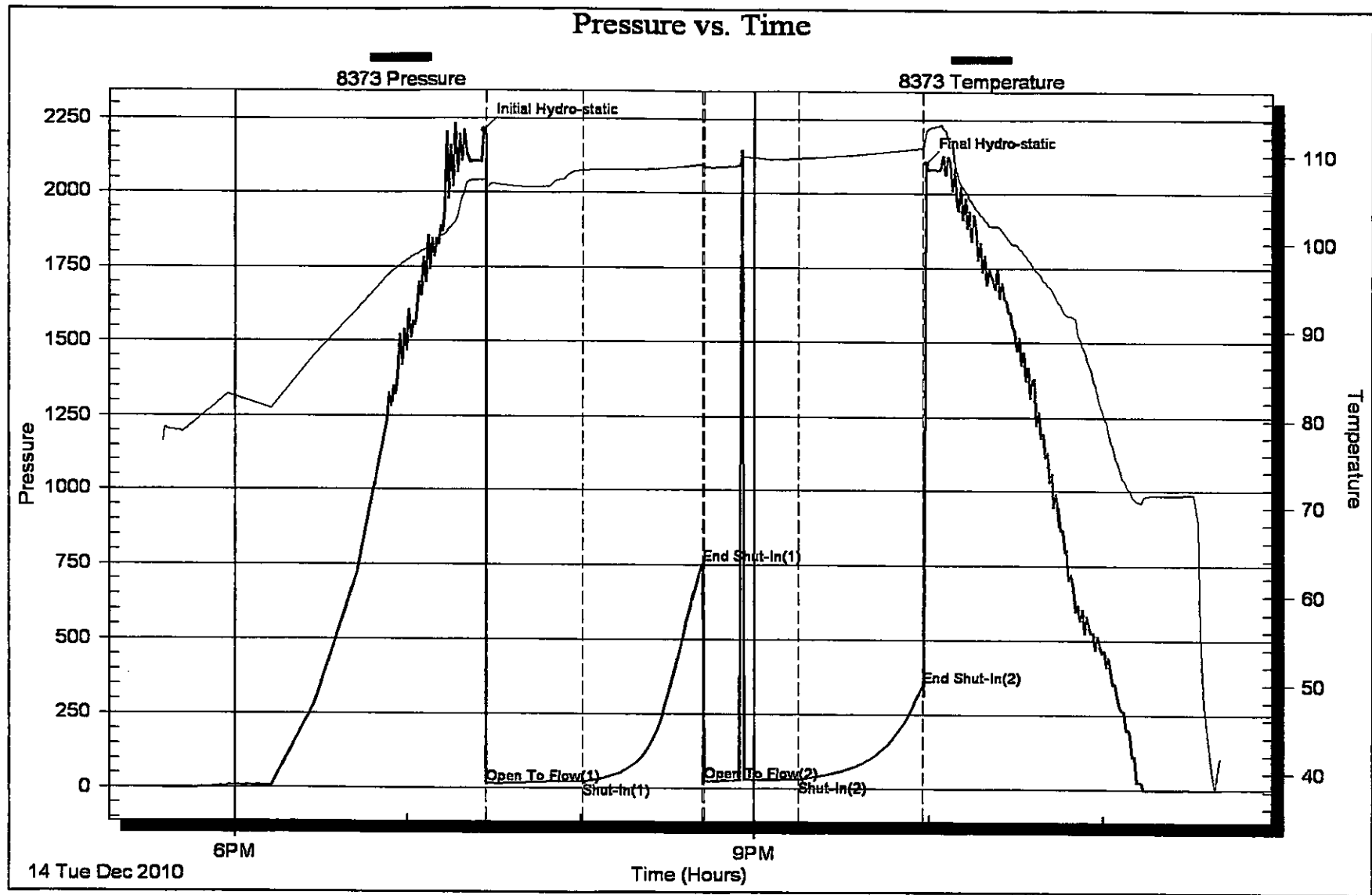
Num Gas Bombs: 0

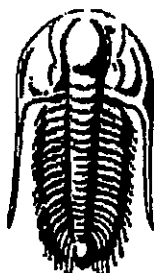
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22ND St N 700
Wichita, KS 67278

ATTN: Mike Engelbrecht

30-13-31w Gove,KS

Joseph 30CD #2

Start Date: 2010.12.15 @ 13:16:15

End Date: 2010.12.15 @ 20:00:54

Job Ticket #: 040496 DST #: 8

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

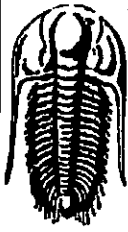
Joseph 30CD #2

30-13-31w Gove,KS

DST # 8

Johnson

2010.12.15



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration
8100 E 22ND St N 700
Wichita, KS 67278
ATTN: Mike Engelbrecht

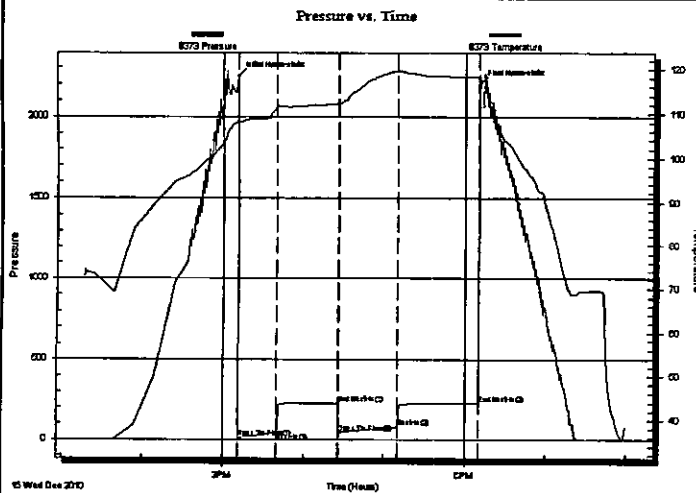
Joseph 30CD #2
30-13-31w Gove,KS
Job Ticket: 040496 DST#: 8
Test Start: 2010.12.15 @ 13:16:15

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:11:25
Time Test Ended: 20:00:54
Interval: 4505.00 ft (KB) To 4537.00 ft (KB) (TVD)
Total Depth: 4537.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole
Tester: Brandon Turley
Unit No: 35
Reference Elevations: 2933.00 ft (KB)
2923.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8373 Inside
Press@RunDepth: 79.35 psig @ 4506.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2010.12.15 End Date: 2010.12.15 Last Calib.: 2010.12.15
Start Time: 13:16:15 End Time: 20:00:54 Time On Btm: 2010.12.15 @ 15:11:10
Time Off Btm: 2010.12.15 @ 18:11:09

TEST COMMENT: IF: 1/4 blow built to 2 1/2 in
IS: No return.
FF: Surface blow built to 2 in
FS: No return.



PRESSURE SUMMARY

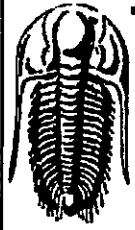
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2244.31	108.88	Initial Hydro-static
1	12.20	108.23	Open To Flow (1)
29	42.51	111.49	Shut-In(1)
75	226.68	112.33	End Shut-In(1)
76	43.75	112.19	Open To Flow (2)
119	79.35	119.53	Shut-In(2)
180	225.88	118.36	End Shut-In(2)
180	2199.36	118.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
93.00	mcw 70%w 30%m	0.46
40.00	w cm 10%w 90%m	0.20

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040496

DST#: 8

ATTN: Mike Engelbrecht

Test Start: 2010.12.15 @ 13:16:15

Tool Information

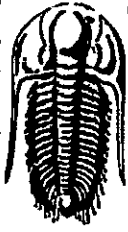
Drill Pipe:	Length: 3958.00 ft	Diameter: 3.80 inches	Volume: 55.52 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 538.00 ft	Diameter: 2.25 inches	Volume: 2.65 bbl	Weight to Pull Loose: 95000.00 lb
		Total Volume: 58.17 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4505.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	55.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4483.00	
Shut In Tool	5.00			4488.00	
Hydraulic tool	5.00			4493.00	
Safety Joint	3.00			4496.00	
Packer	5.00			4501.00	23.00 Bottom Of Top Packer
Packer	4.00			4505.00	
Stubb	1.00			4506.00	
Recorder	0.00	8373	Inside	4506.00	
Recorder	0.00	8289	Outside	4506.00	
Perforations	26.00			4532.00	
Bullnose	5.00			4537.00	32.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Joseph 30CD #2

8100 E 22ND St N 700
Wichita, KS 67278

30-13-31w Gove, KS

Job Ticket: 040496

DST#: 8

ATTN: Mike Engelbrecht

Test Start: 2010.12.15 @ 13:16:15

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:

30000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
93.00	mcw 70%w 30%m	0.457
40.00	w cm 10%w 90%m	0.197

Total Length: 133.00 ft Total Volume: 0.654 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .27@62=30000

