

Operator Name: Murfin Drilling Company, Inc. Lease Name: J&J Kuhlman Well #: 2-4
 Sec. 4 Twp. 13 S. R. 32 East West County: Logan

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

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run: Dual Induction, Compensated Porosity, Microresistivity	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum See Attached List <div style="text-align: right; font-weight: bold; font-size: 1.2em;"> KCC AUG 17 2010 CONFIDENTIAL </div>
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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		8 5/8	23#	224	Common	175	3% cc, 2% gel

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				

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

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TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

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 (Explain) _____			
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) (Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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MDCI J&J Kuhlman #2-4 1100' FNL 2700' FEL Sec. 4-T13S-R32W 3051' KB							MDCI J&J Kuhlman #1-4 1800' FNL 1950' FEL Sec. 4-T13S-R32W 3055' KB	
Formation	SampleTops	Datum	Ref	Log Tops	Datum	Ref	Log Tops	Datum
Anhydrite	2548	+503	-10	2544	+507	-6	2542	+513
B/Anhydrite	2570	+481	-7	2568	+483	-5	2567	+488
Topeka	3846	-795	-5	3845	-794	-4	3845	-790
Heebner	4004	-953	-7	4002	-951	-5	4001	-946
Lansing	4045	-994	-7	4041	-990	-3	4042	-987
Stark	4274	-1223	-5	4273	-1222	-4	4273	-1218
Up Pawnee	4474	-1423	-6	4474	-1423	-6	4472	-1417
Chero Sh	4559	-1508	-8	4558	-1507	-7	4555	-1500
Johnson	4604	-1553	-9	4600	-1549	-5	4599	-1544
B Penn Lm	4635	-1584	-6	4634	-1583	-5	4633	-1578
Mississippi	4666	-1615	+7	4666	-1615	+7	4677	-1622
RTD	4740						4730	
LTD				4739			4729	

X000
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PO BOX 31 Russell, KS 67665

Voice: (785) 483-3887
 Fax: (785) 483-5566

Bill To:
 Murfin Drlg. Co., Inc.
 250 N. Water
 STE #300
 Wichita, KS 67202

INVOICE

Invoice Number: 122613
 Invoice Date: May 8, 2010
 Page: 1

Acct. for

KCC
 AUG 19 2010
 CONFIDENTIAL

operator pay
mrc
BY
 COPY

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Murfin	J & J Kuhlman #2-4	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	May 8, 2010	6/7/10

Quantity	Item	Description	Unit Price	Amount
175.00	MAT	Class A Common	15.45	2,703.75
3.00	MAT	Gel	20.80	62.40
6.00	MAT	Chloride	58.20	349.20
184.00	SER	Handling	2.40	441.60
10.00	SER	Mileage 184 sx @ .10 per sk per mi	18.40	184.00
1.00	SER	Surface	1,018.00	1,018.00
10.00	SER	Pump Truck Mileage	7.00	70.00

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Account	Rig	v/l	No.	Amount	Description
03600	014	45	3658	5025.22	Comment
				(1690.13)	

S. (39)

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

\$ 1690.13 *35%*

ONLY IF PAID ON OR BEFORE
 Jun 2, 2010

Subtotal	4,828.95
Sales Tax	196.27
Total Invoice Amount	5,025.22
Payment/Credit Applied	
TOTAL	5,025.22

1690.13
 3335.09

ALLIED CEMENTING CO., LLC. 039296

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

SERVICE POINT:
Oakley

DATE <u>5-8-10</u> <i>June 3 Ruhlman</i>	SEC. <u>4</u>	TWP. <u>13</u>	RANGE <u>32</u>	CALLED OUT	ON LOCATION	JOB START <u>11:00pm</u>	JOB FINISH <u>11:30pm</u>
LEASE	WELL # <u>2-4</u>	LOCATION <u>Oakley 11.5 1/2 W S170</u>		COUNTY <u>Linn</u>	STATE <u>KS</u>		
OLD OR (NEW) (Circle one)							

CONTRACTOR MurFin Drilling Rig 14 OWNER same

TYPE OF JOB surface

HOLE SIZE 12 1/4 T.D. 227' CEMENT

CASING SIZE 8 7/8 DEPTH 227' AMOUNT ORDERED 125 sks com

TUBING SIZE DEPTH 3% @ 2% gel

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM COMMON 125 sks @ 15.45 2703.75

MEAS. LINE SHOE JOINT POZMIX @

CEMENT LEFT IN CSG. 15' GEL 3 sks @ 20.80 62.40

PERFS. CHLORIDE 6 sks @ 58.20 349.20

DISPLACEMENT 13.5 BBL ASC @

EQUIPMENT

PUMP TRUCK CEMENTER Andrew

423-281 HELPER Larene

BULK TRUCK

377 DRIVER Darrin

BULK TRUCK

DRIVER

COMMON 125 sks @ 15.45 2703.75

POZMIX @

GEL 3 sks @ 20.80 62.40

CHLORIDE 6 sks @ 58.20 349.20

ASC @

@

@

@

@

@

@

@

HANDLING 184 sks @ 2.40 441.60

MILEAGE 10 sk/mile 184.00

TOTAL 3740.95

REMARKS:

Hand cement did circulate

Thank you

SERVICE

DEPTH OF JOB 227'

PUMP TRUCK CHARGE 1018.00

EXTRA FOOTAGE @

MILEAGE 10 miles @ 7.00 70.00

MANIFOLD @

@

@

TOTAL 1088.00

CHARGE TO: MurFin

STREET

CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

@

@

@

@

@

TOTAL

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

PRINTED NAME Greg Church

SIGNATURE Greg Church

REC'D
AUG 17 2010
CONFIDENTIAL

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AUG 19 2010
KCC WICHITA

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.



PO BOX 31 Russell, KS 67665

acct. List
INVOICE

Invoice Number: 122797

Invoice Date: May 16, 2010

Page: 1

Voice: (785) 483-3887

Fax: (785) 483-5566

Bill To:

Murfin Drig. Co., Inc.
250 N. Water
STE #300
Wichita, KS 67202

*operator pay
m.d.c.*

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CONFIDENTIAL

Customer ID Murfin	Well Name# or Customer P.O. J & J Kuhlman #2-4	Payment Terms Net 30 Days	
Job Location KS1-03	Camp Location Oakley	Service Date May 16, 2010	Due Date 6/15/10

Quantity	Item	Description	Unit Price	Amount
135.00	MAT	Class A Common	15.45	2,085.75
90.00	MAT	Pozmix	8.00	720.00
8.00	MAT	Gel	20.80	166.40
56.00	MAT	Flo Seal	2.50	140.00
235.00	SER	Handling	2.40	564.00
1.00	SER	Handling mileage Charge	312.00	312.00
1.00	SER	Plug to Abandon	1,185.00	1,185.00
11.00	SER	Pump truck Mileage	7.00	77.00
1.00	EQP	4.5 Dry Hole Plug	40.00	40.00

Account	Amount	Description
03600 014 20 3658	5623.43 (1851.55)	PTA

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. 1 1/2% CHARGED
THEREAFTER. IF ACCOUNT IS
CURRENT, TAKE DISCOUNT OF

\$ 1851.55

ONLY IF PAID ON OR BEFORE
Jun 10, 2010

Subtotal	5,290.15
Sales Tax	333.28
Total Invoice Amount	5,623.43
Payment/Credit Applied	
TOTAL	5,623.43

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1851.55
3771.88

ALLIED CEMENTING CO., LLC. 039249

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

SERVICE POINT:

Oakley KS

DATE 5-16-10	SEC 4	TWP 13	RANGE 32	CALLED OUT	ON LOCATION 11:00 pm	JOB START 4:00 am	JOB FINISH 4:30 am
LEASE <u>Ruhlman</u>	WELL# <u>2-4</u>	LOCATION <u>Oakley 105-1/2 W. 13th</u>		COUNTY <u>Logan</u>	STATE <u>KS</u>		
OLD OR NEW (Circle one)							

CONTRACTOR <u>Murphy</u>	OWNER
TYPE OF JOB <u>PTA</u>	
HOLE SIZE <u>7 7/8</u>	T.D. <u>4740'</u>
CASING SIZE	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH <u>2560'</u>
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT	

CEMENT	AMOUNT ORDERED <u>225 sks 60/40</u>
	<u>40% seal 14 + 8k seal</u>
COMMON	<u>135 @ 15.45 2085.75</u>
POZMIX	<u>9.0 @ 8.00 720.00</u>
GEL	<u>8 @ 20.90 167.20</u>
CHLORIDE	@
ASC	@
	@
	@
<u>Closeal 56*</u>	<u>@ 2.50 140.00</u>
	@
	@
	@
	@
	@
HANDLING	<u>235 @ 2.40 564.00</u>
MILEAGE	<u>10.49 kmile 312.00</u>
	(minimum) TOTAL <u>3988.75</u>

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EQUIPMENT	
PUMP TRUCK	CEMENTER <u>Fuzzie</u>
# <u>431</u>	HELPER <u>Kelly</u>
BULK TRUCK	
# <u>377</u>	DRIVER <u>Darin</u>
BULK TRUCK	
#	DRIVER
REMARKS:	
<u>25 sk @ 2560'</u>	
<u>10 sk @ 1490'</u>	
<u>40 sk @ 275'</u>	
<u>10 sk @ 40' w/plus</u>	
<u>30 sk RH</u>	
<u>20 sk MH</u>	
<u>Job complete @ 4:30 am</u>	
<u>Thanks Fuzzie crew</u>	

SERVICE

DEPTH OF JOB	<u>2560'</u>
PUMP TRUCK CHARGE	<u>1185.00</u>
EXTRA FOOTAGE	@
MILEAGE	<u>11 @ 7.00 77.00</u>
MANIFOLD	@
	@
	@
TOTAL	<u>1262.00</u>

PLUG & FLOAT EQUIPMENT

<u>1- Dry hole plug</u>	@ <u>40.00</u>
	@
	@
	@
	@
TOTAL	<u>40.00</u>

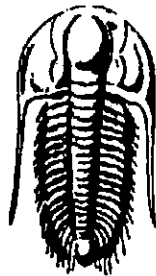
CHARGE TO: Murphy Dals
STREET _____
CITY _____ STATE _____ ZIP _____

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 BREB Unruh
SIGNATURE Breg Unruh

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

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AUG 19 2010
KCC WICHITA



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc.**

250 N Water STE 300
Wichita, KS 67202

KCC
AUG 17 2010
CONFIDENTIAL

ATTN: Tom Funk

4/13/32 Logan KS

JJ Kuhlman 2-4

Start Date: 2010.05.12 @ 16:13:12

End Date: 2010.05.13 @ 00:08:31

Job Ticket #: 37532 DST #: 1

RECEIVED
AUG 19 2010
KCC WICHITA

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

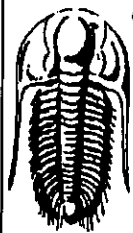
4/13/32 Logan KS

DST # 1

KC I&J

2010.05.12

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37532

DST#: 1

ATTN: Tom Funk

Test Start: 2010.05.12 @ 16:13:12

GENERAL INFORMATION:

Formation: **KC I&J**

Deviated: **No Whipstock** ft (KB)

Time Tool Opened: 18:04:31

Time Test Ended: 00:08:31

Interval: **4211.00 ft (KB) To 4270.00 ft (KB) (TVD)**

Total Depth: **4270.00 ft (KB) (TVD)**

Hole Diameter: **7.78 inches** Hole Condition: **Good**

Test Type: **Conventional Bottom Hole**

Tester: **Chris Hagman**

Unit No: **34**

Reference Elevations: **3051.00 ft (KB)**

3041.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6753

Inside

Press@RunDepth: **307.68 psig @ 4213.00 ft (KB)**

Start Date: **2010.05.12**

End Date: **2010.05.13**

Start Time: **16:13:12**

End Time: **00:08:31**

Capacity: **8000.00 psig**

Last Calib.: **2010.05.13**

Time On Btm: **2010.05.12 @ 18:03:21**

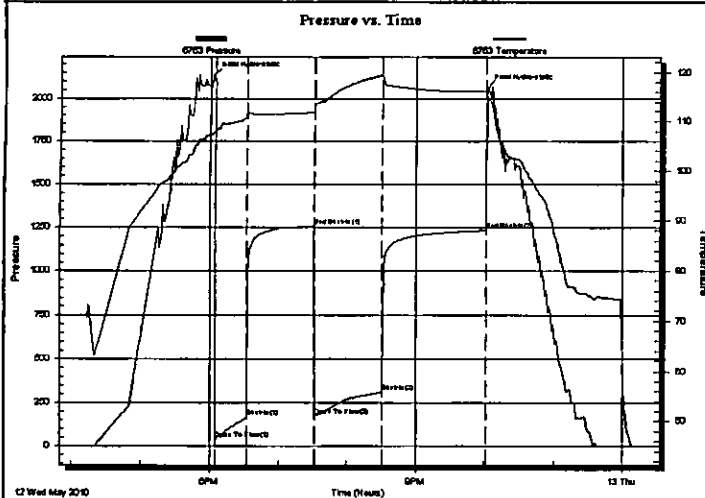
Time Off Btm: **2010.05.12 @ 22:02:11**

TEST COMMENT: IF: 10 inches in 30 min., strong building blow

IS: No blow back

FF: BOB 40 min., strong building blow

FSI: No blow back



PRESSURE SUMMARY

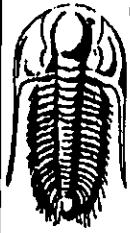
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2133.43	107.73	Initial Hydro-static
2	38.07	108.16	Open To Flow (1)
29	164.61	111.99	Shut-In(1)
89	1259.68	111.88	End Shut-In(1)
89	170.11	113.79	Open To Flow (2)
148	307.68	119.36	Shut-In(2)
239	1233.63	116.13	End Shut-In(2)
239	2063.03	116.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
630.00	muddy water 90%W,10%M	3.91

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37532

DST#: 1

ATTN: Tom Funk

Test Start: 2010.05.12 @ 16:13:12

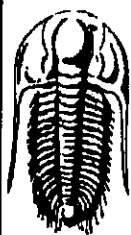
Tool Information

Drill Pipe:	Length: 3647.00 ft	Diameter: 3.80 inches	Volume: 51.16 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 541.00 ft	Diameter: 2.25 inches	Volume: 2.66 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 53.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4211.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4184.00	
Shut In Tool	5.00			4189.00	
Hydraulic tool	5.00			4194.00	
Jars	5.00			4199.00	
Safety Joint	3.00			4202.00	
Packer	5.00			4207.00	28.00 Bottom Of Top Packer
Packer	4.00			4211.00	
Stubb	1.00			4212.00	
Perforations	1.00			4213.00	
Recorder	0.00	8374	Inside	4213.00	
Recorder	0.00	6753	Inside	4213.00	
Perforations	20.00			4233.00	
Change Over Sub	1.00			4234.00	
Drill Pipe	32.00			4266.00	
Change Over Sub	1.00			4267.00	
Bullnose	3.00			4270.00	59.00 Bottom Packers & Anchor
Total Tool Length:	87.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37532

DST#: 1

ATTN: Tom Funk

Test Start: 2010.05.12 @ 16:13:12

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	55000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.97 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3300.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

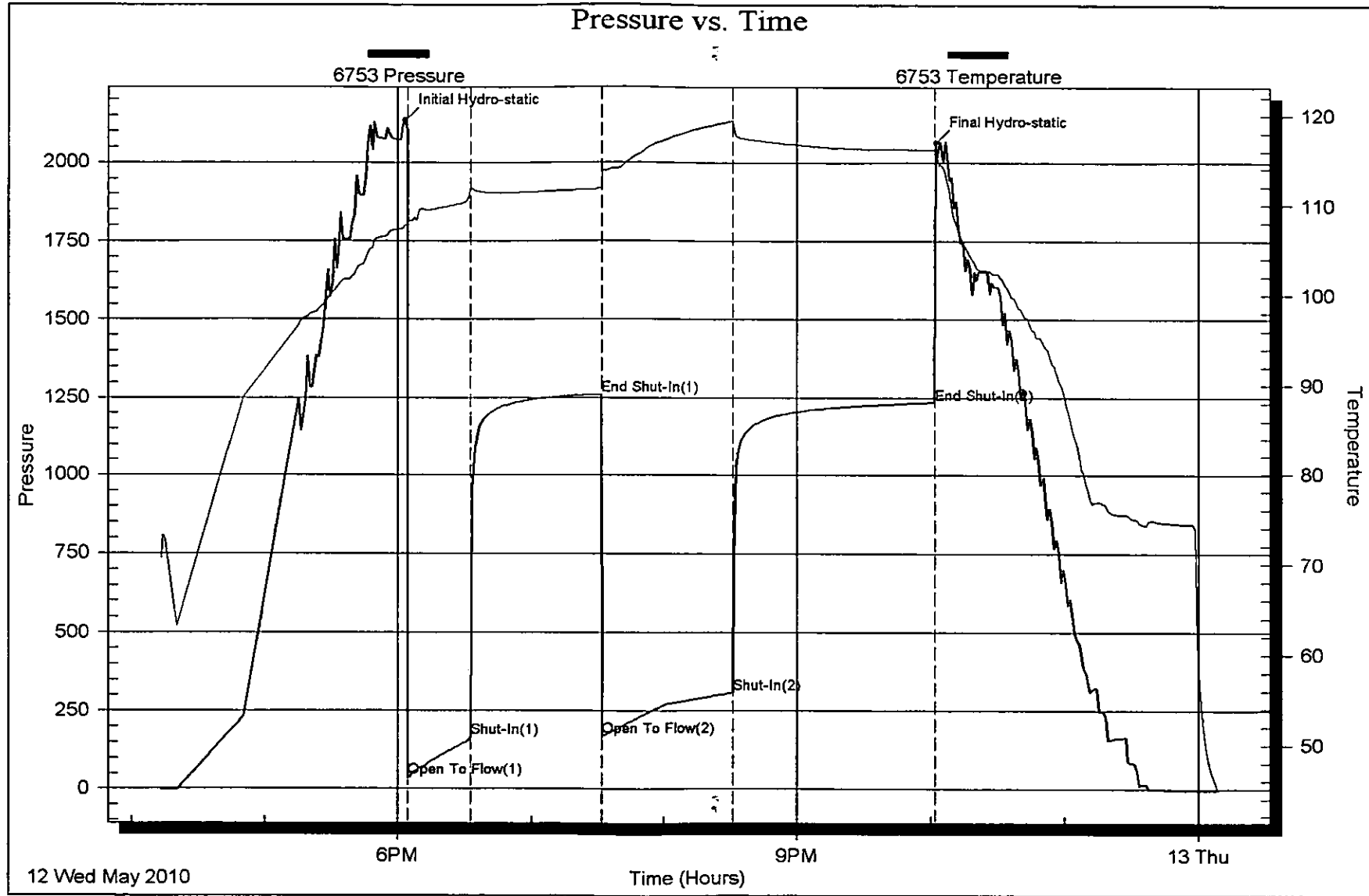
Length ft	Description	Volume bbl
630.00	muddy water 90%W,10%M	3.909

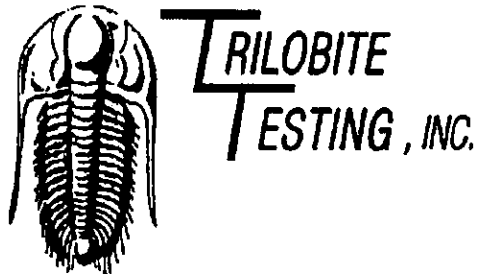
Total Length: 630.00 ft Total Volume: 3.909 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW= 141@69F=55,000ppm





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc.**

250 N Water STE 300
Wichita, KS 67202

ATTN: Tom Funk

4/13/32 Logan KS

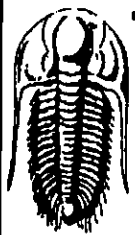
JJ Kuhlman 2-4

Start Date: 2010.05.13 @ 08:37:46

End Date: 2010.05.13 @ 16:50:05

Job Ticket #: 37533 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

Murfin Drilling Co, Inc.

250 N Water STE 300
Wichita, KS 67202

ATTN: Tom Funk

JJ Kuhlman 2-4

4/13/32 Logan KS

Job Ticket: 37533

DST#: 2

Test Start: 2010.05.13 @ 08:37:46

GENERAL INFORMATION:

Formation: **KC K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:09:45

Time Test Ended: 16:50:05

Test Type: Conventional Bottom Hole

Tester: Chris Hagman

Unit No: 34

Interval: **4270.00 ft (KB) To 4330.00 ft (KB) (TVD)**

Total Depth: 4330.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 3051.00 ft (KB)

3041.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6753

Inside

Press@RunDepth: 231.32 psig @ 4273.00 ft (KB)

Start Date: 2010.05.13

End Date:

2010.05.13

Start Time: 08:37:46

End Time:

16:50:05

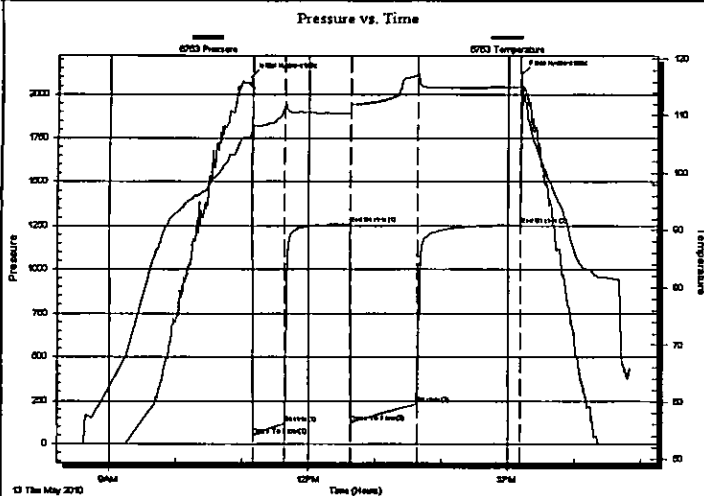
Capacity: 8000.00 psig

Last Calib.: 2010.05.13

Time On Btm: 2010.05.13 @ 11:08:05

Time Off Btm: 2010.05.13 @ 15:12:35

TEST COMMENT: IF: 7 inches in 30 min., fair building blow
IS: No blow back
FF: 9 inches in 60 min., fair building blow
FS: No blow back



PRESSURE SUMMARY

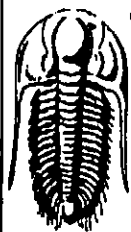
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2099.34	106.98	Initial Hydro-static
2	42.71	107.65	Open To Flow (1)
31	114.67	111.50	Shut-In(1)
90	1261.94	110.42	End Shut-In(1)
91	120.57	112.12	Open To Flow (2)
151	231.32	117.04	Shut-In(2)
244	1255.06	115.05	End Shut-In(2)
245	2117.94	113.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
450.00	oil spotted watery mud 45%W,55%M	2.21

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37533

DST#: 2

ATTN: Tom Funk

Test Start: 2010.05.13 @ 08:37:46

Tool Information

Drill Pipe:	Length: 3710.00 ft	Diameter: 3.80 inches	Volume: 52.04 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 541.00 ft	Diameter: 2.25 inches	Volume: 2.66 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 54.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4270.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 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			4243.00	
Shut In Tool	5.00			4248.00	
Hydraulic tool	5.00			4253.00	
Jars	5.00			4258.00	
Safety Joint	3.00			4261.00	
Packer	5.00			4266.00	28.00 Bottom Of Top Packer
Packer	4.00			4270.00	
Stubb	1.00			4271.00	
Perforations	2.00			4273.00	
Recorder	0.00	8374	Inside	4273.00	
Recorder	0.00	6753	Inside	4273.00	
Perforations	20.00			4293.00	
Change Over Sub	1.00			4294.00	
Drill Pipe	32.00			4326.00	
Change Over Sub	1.00			4327.00	
Bullnose	3.00			4330.00	60.00 Bottom Packers & Anchor
Total Tool Length:	88.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37533

DST#: 2

ATTN: Tom Funk

Test Start: 2010.05.13 @ 08:37:46

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

52000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
450.00	oil spotted watery mud 45%W,55%M	2.213

Total Length: 450.00 ft

Total Volume: 2.213 bbl

Num Fluid Samples: 0

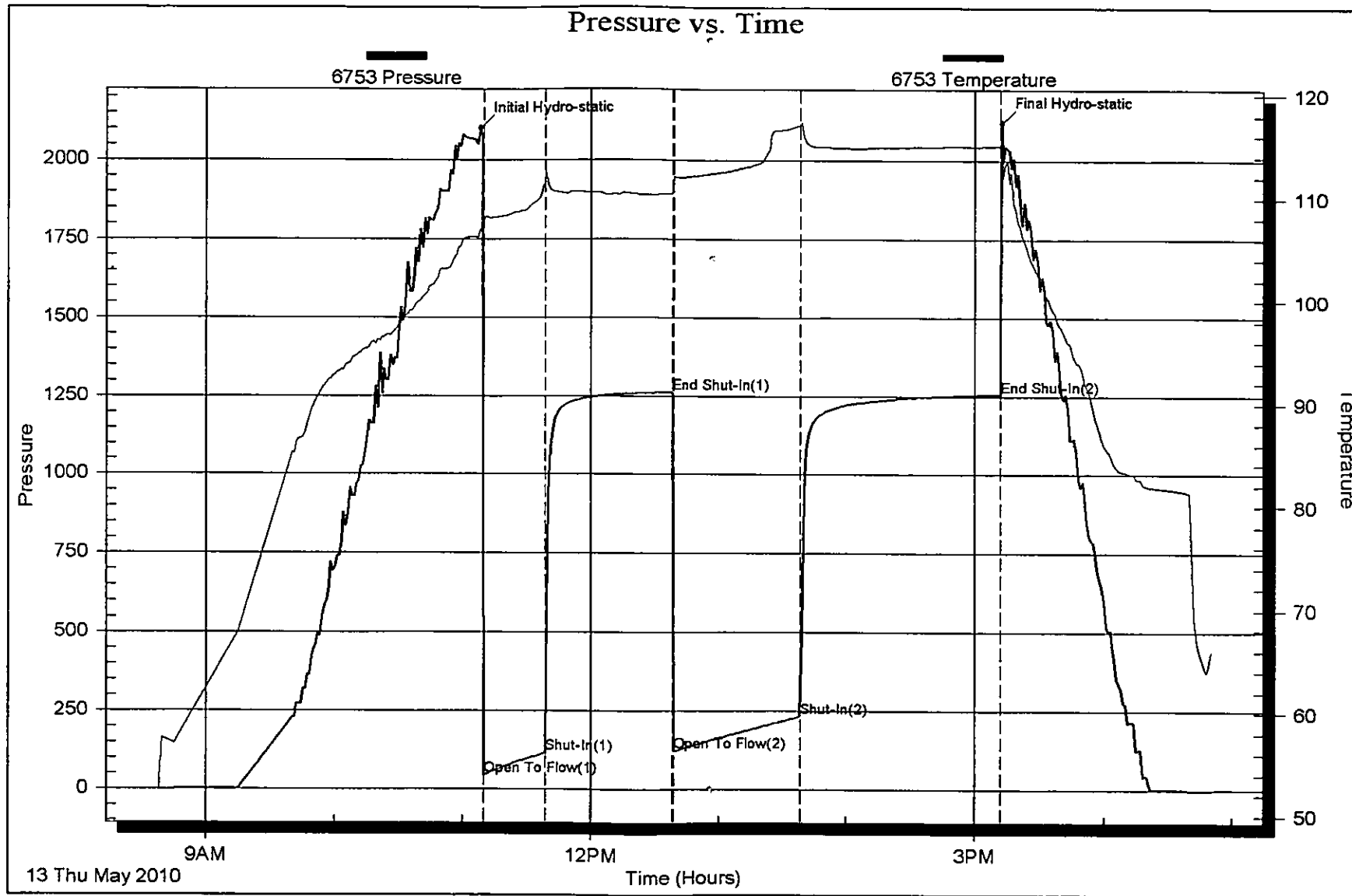
Num Gas Bombs: 0

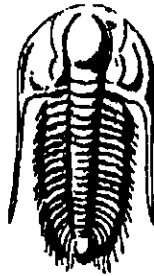
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .149@70F=52,000ppm





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc.**

250 N Water STE 300
Wichita, KS 67202

ATTN: Tom Funk

4/13/32 Logan KS

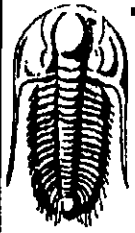
JJ Kuhlman 2-4

Start Date: 2010.05.14 @ 06:24:34

End Date: 2010.05.14 @ 14:28:33

Job Ticket #: 37534 DST #: 3

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc.

250 N Water STE 300
Wichita, KS 67202

ATTN: Tom Funk

JJ Kuhlman 2-4

4/13/32 Logan KS

Job Ticket: 37534

DST#: 3

Test Start: 2010.05.14 @ 06:24:34

GENERAL INFORMATION:

Formation: **Altomont-Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:30:03

Time Test Ended: 14:28:33

Test Type: Conventional Bottom Hole

Tester: Chris Hagman

Unit No: 34

Interval: **4385.00 ft (KB) To 4495.00 ft (KB) (TVD)**

Total Depth: 4495.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 3051.00 ft (KB)

3041.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6753

Inside

Press@RunDepth: 169.93 psig @ 4387.00 ft (KB)

Start Date: 2010.05.14

End Date:

2010.05.14

Capacity: 8000.00 psig

Last Calib.: 2010.05.14

Start Time: 06:24:34

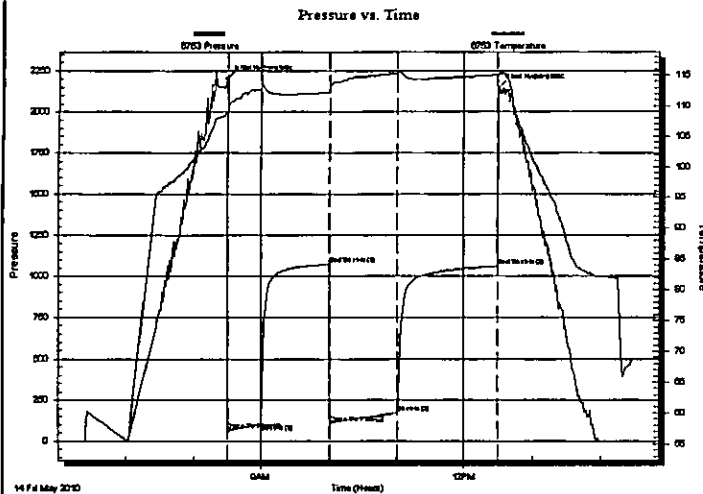
End Time:

14:28:33

Time On Btm: 2010.05.14 @ 08:28:53

Time Off Btm: 2010.05.14 @ 12:30:53

TEST COMMENT: IF: 2.5 inches in 30 min., weak surface blow
IS: No blow back
FF: 4 inches in 60 min., weak building blow
FS: No blow back



PRESSURE SUMMARY

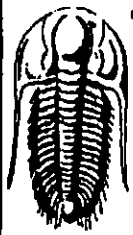
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2202.97	108.87	Initial Hydro-static
2	62.21	108.88	Open To Flow (1)
31	105.27	112.65	Shut-In(1)
92	1072.80	112.20	End Shut-In(1)
92	107.04	113.24	Open To Flow (2)
152	169.93	115.19	Shut-In(2)
241	1057.35	114.95	End Shut-In(2)
243	2148.44	114.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
270.00	oily mud 5%O,95%M	1.33

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37534

DST#: 3

ATTN: Tom Funk

Test Start: 2010.05.14 @ 06:24:34

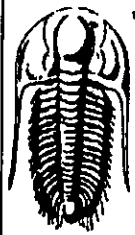
Tool Information

Drill Pipe:	Length: 3838.00 ft	Diameter: 3.80 inches	Volume: 53.84 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 541.00 ft	Diameter: 2.25 inches	Volume: 2.66 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 56.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4385.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	110.00 ft			
Tool Length:	138.00 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			4358.00	
Shut In Tool	5.00			4363.00	
Hydraulic tool	5.00			4368.00	
Jars	5.00			4373.00	
Safety Joint	3.00			4376.00	
Packer	5.00			4381.00	28.00 Bottom Of Top Packer
Packer	4.00			4385.00	
Stubb	1.00			4386.00	
Perforations	1.00			4387.00	
Recorder	0.00	8374	Inside	4387.00	
Recorder	0.00	6753	Inside	4387.00	
Perforations	10.00			4397.00	
Change Over Sub	1.00			4398.00	
Drill Pipe	93.00			4491.00	
Change Over Sub	1.00			4492.00	
Bullnose	3.00			4495.00	110.00 Bottom Packers & Anchor
Total Tool Length:	138.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37534

DST#: 3

ATTN: Tom Funk

Test Start: 2010.05.14 @ 06:24:34

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

22000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
270.00	oily mud 5%O,95%M	1.328

Total Length: 270.00 ft

Total Volume: 1.328 bbl

Num Fluid Samples: 0

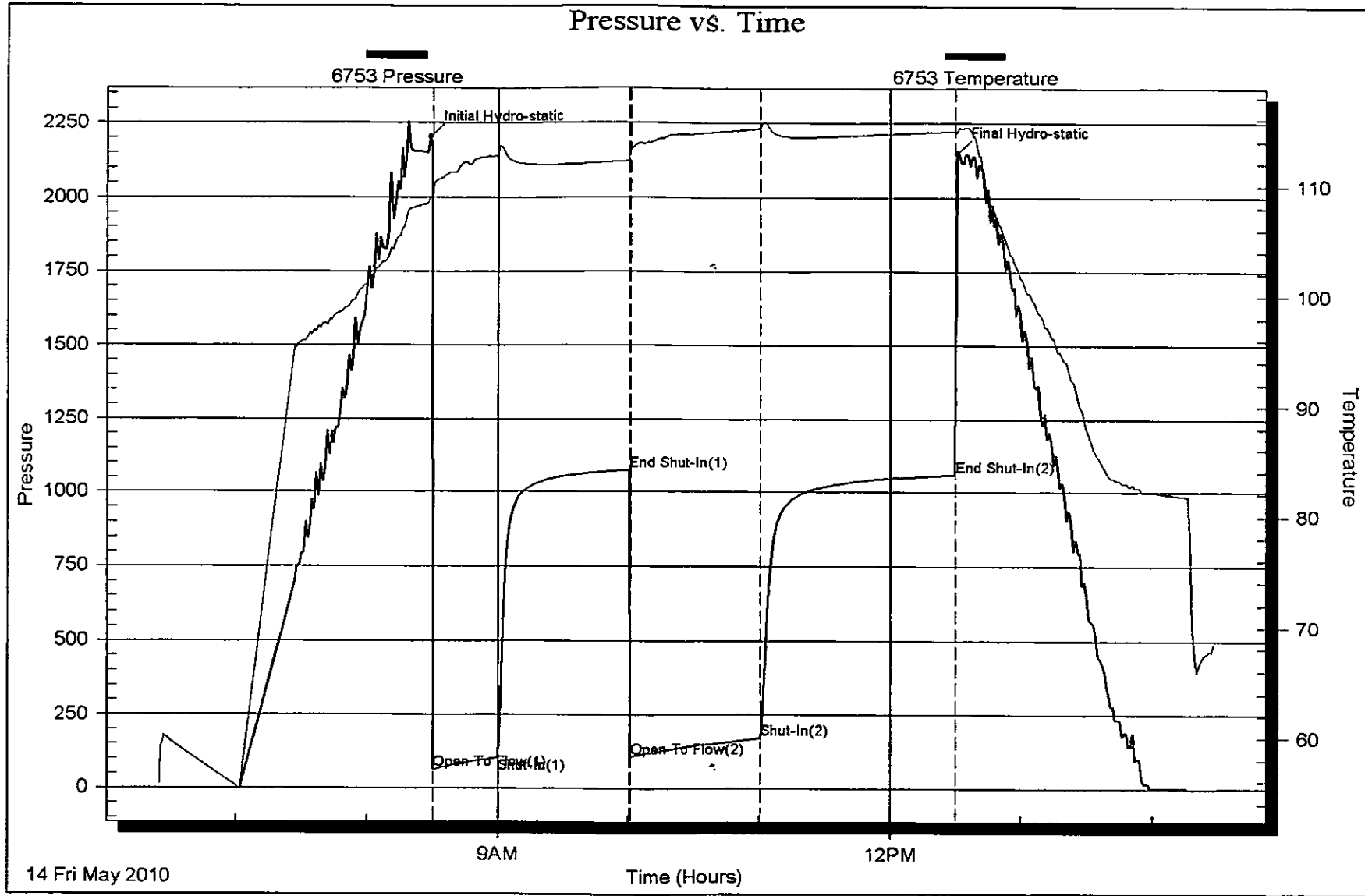
Num Gas Bombs: 0

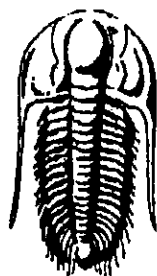
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=272@80F=22,000ppm





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc.**

250 N Water STE 300
Wichita, KS 67202

ATTN: Tom Funk

4/13/32 Logan KS

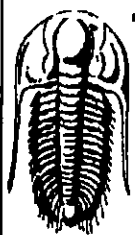
JJ Kuhlman 2-4

Start Date: 2010.05.15 @ 00:34:27

End Date: 2010.05.15 @ 08:46:26

Job Ticket #: 37535 DST #: 4

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc.

250 N Water STE 300
Wichita, KS 67202

ATTN: Tom Funk

JJ Kuhlman 2-4

4/13/32 Logan KS

Job Ticket: 37535

DST#: 4

Test Start: 2010.05.15 @ 00:34:27

GENERAL INFORMATION:

Formation: **Myrick Station, Fort**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:52:36

Time Test Ended: 08:46:26

Test Type: Conventional Bottom Hole

Tester: Chris Hagman

Unit No: 34

Interval: **4499.00 ft (KB) To 4580.00 ft (KB) (TVD)**

Total Depth: 4580.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Good

Reference Elevations: 3051.00 ft (KB)

3041.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6753

Inside

Press@RunDepth: 72.68 psig @ 4502.00 ft (KB)

Start Date: 2010.05.15

End Date:

2010.05.15

Start Time: 00:34:27

End Time:

08:46:26

Capacity: 8000.00 psig

Last Calib.: 2010.05.15

Time On Btm 2010.05.15 @ 02:51:56

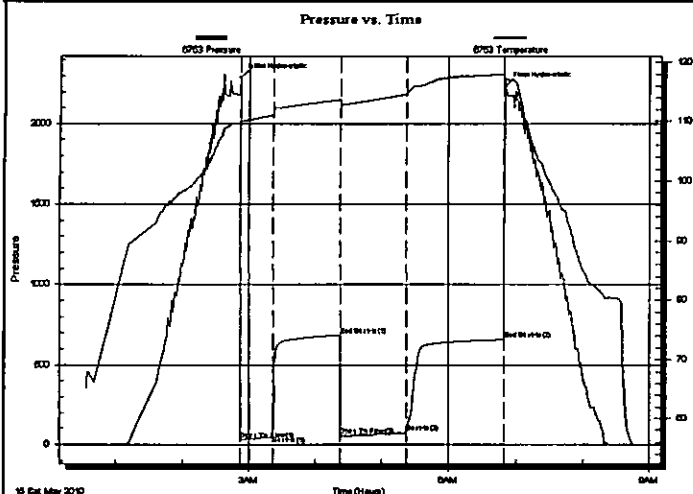
Time Off Btm 2010.05.15 @ 06:50:56

TEST COMMENT: IF: 1 inch in 30 min., weak surface blow

IS: No blow back

FF: Weak surface blow

FS: No blow back



PRESSURE SUMMARY

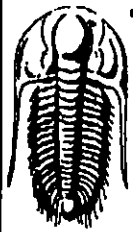
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2290.86	109.97	Initial Hydro-static
1	29.65	109.70	Open To Flow (1)
30	50.91	111.01	Shut-In(1)
91	686.20	113.69	End Shut-In(1)
91	52.84	112.62	Open To Flow (2)
150	72.68	114.62	Shut-In(2)
238	657.79	117.96	End Shut-In(2)
239	2236.80	117.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
100.00	oil spotted mud 100%M	0.49

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37535

DST#: 4

ATTN: Tom Funk

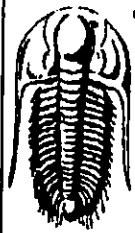
Test Start: 2010.05.15 @ 00:34:27

Tool Information

Drill Pipe:	Length: 3962.00 ft	Diameter: 3.80 inches	Volume: 55.58 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 541.00 ft	Diameter: 2.25 inches	Volume: 2.66 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 58.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 73000.00 lb
Depth to Top Packer:	4499.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	81.00 ft			
Tool Length:	109.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4472.00	
Shut In Tool	5.00			4477.00	
Hydraulic tool	5.00			4482.00	
Jars	5.00			4487.00	
Safety Joint	3.00			4490.00	
Packer	5.00			4495.00	28.00 Bottom Of Top Packer
Packer	4.00			4499.00	
Stubb	1.00			4500.00	
Perforations	2.00			4502.00	
Recorder	0.00	8374	Inside	4502.00	
Recorder	0.00	6753	Inside	4502.00	
Perforations	10.00			4512.00	
Change Over Sub	1.00			4513.00	
Drill Pipe	63.00			4576.00	
Change Over Sub	1.00			4577.00	
Bullnose	3.00			4580.00	81.00 Bottom Packers & Anchor
Total Tool Length:	109.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37535

DST#: 4

ATTN: Tom Funk

Test Start: 2010.05.15 @ 00:34:27

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	13000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.39 in ³	Gas Cushion Type:		
Resistivity: ohmm	Gas Cushion Pressure: psig		
Salinity: 3200.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

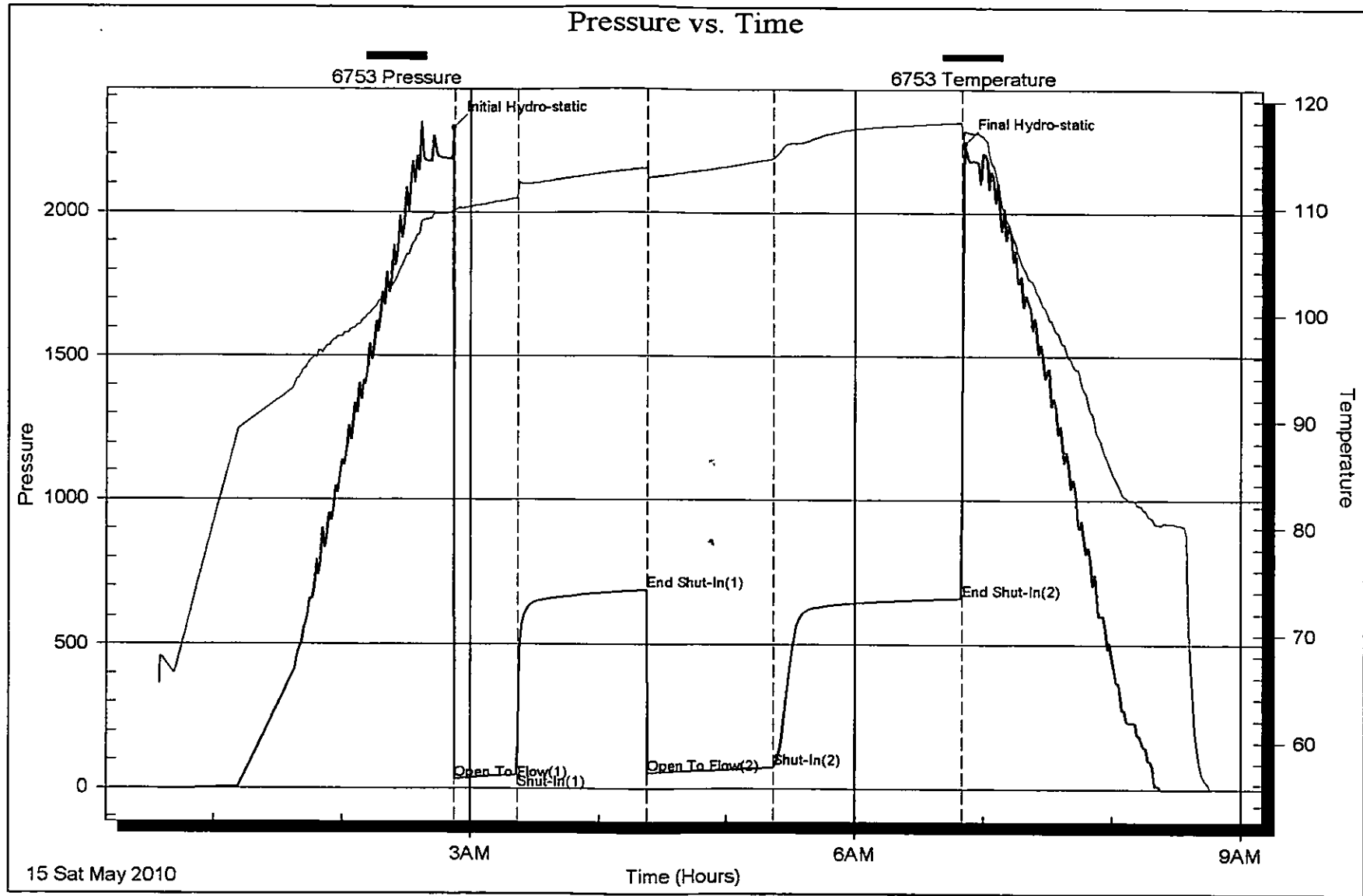
Length ft	Description	Volume bbl
100.00	oil spotted mud 100%M	0.492

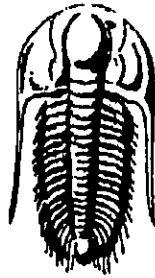
Total Length: 100.00 ft Total Volume: 0.492 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW=524@70F=13,000ppm





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co, Inc.**

250 N Water STE 300
Wichita, KS 67202

ATTN: Tom Funk

4/13/32 Logan KS

JJ Kuhlman 2-4

Start Date: 2010.05.15 @ 16:49:29

End Date: 2010.05.16 @ 00:57:38

Job Ticket #: 37536 DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Murfin Drilling Co, Inc.

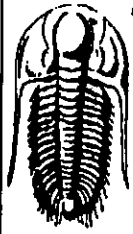
JJ Kuhlman 2-4

4/13/32 Logan KS

DST # 5

Johnson

2010.05.15



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co, Inc.
 250 N Water STE 300
 Wichita, KS 67202
 ATTN: Tom Funk

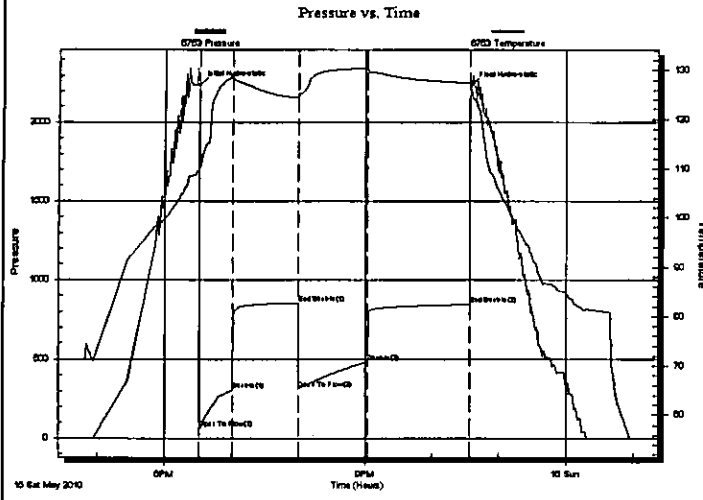
JJ Kuhlman 2-4
4/13/32 Logan KS
 Job Ticket: 37536 **DST#: 5**
 Test Start: 2010.05.15 @ 16:49:29

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 18:30:28
 Time Test Ended: 00:57:38
 Interval: **4578.00 ft (KB) To 4630.00 ft (KB) (TVD)**
 Total Depth: **4630.00 ft (KB) (TVD)**
 Hole Diameter: **7.78 inches** Hole Condition: **Good**
 Test Type: **Conventional Bottom Hole**
 Tester: **Chris Hagman**
 Unit No: **34**
 Reference Elevations: **3051.00 ft (KB)**
3041.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6753 Inside
 Press@RunDepth: **484.01 psig @ 4580.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2010.05.15** End Date: **2010.05.16** Last Calib.: **2010.05.16**
 Start Time: **16:49:29** End Time: **00:57:38** Time On Btm: **2010.05.15 @ 18:29:58**
 Time Off Btm: **2010.05.15 @ 22:35:28**

TEST COMMENT: IF: BOB 8 min., strong building blow
 IS: No blow back
 FF: BOB 10 min., strong steady blow
 FS: Blow back in 4 min., 1.5 inches in 90 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2241.24	109.29	Initial Hydro-static
1	58.11	109.60	Open To Flow (1)
31	306.73	128.78	Shut-In(1)
90	855.68	124.46	End Shut-In(1)
90	313.78	125.37	Open To Flow (2)
152	484.01	130.48	Shut-In(2)
245	846.86	127.46	End Shut-In(2)
246	2238.67	126.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1006.00	oily muddy water 5%O,90%W,5%O	9.18
10.00	oil 100%O	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37536

DST#: 5

ATTN: Tom Funk

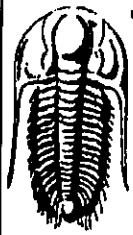
Test Start: 2010.05.15 @ 16:49:29

Tool Information

Drill Pipe:	Length: 4028.00 ft	Diameter: 3.80 inches	Volume: 56.50 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 541.00 ft	Diameter: 2.25 inches	Volume: 2.66 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 59.16 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4578.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	80.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4551.00	
Shut In Tool	5.00			4556.00	
Hydraulic tool	5.00			4561.00	
Jars	5.00			4566.00	
Safety Joint	3.00			4569.00	
Packer	5.00			4574.00	28.00 Bottom Of Top Packer
Packer	4.00			4578.00	
Stubb	1.00			4579.00	
Perforations	1.00			4580.00	
Recorder	0.00	8374	Inside	4580.00	
Recorder	0.00	6753	Inside	4580.00	
Perforations	14.00			4594.00	
Change Over Sub	1.00			4595.00	
Drill Pipe	31.00			4626.00	
Change Over Sub	1.00			4627.00	
Bullnose	3.00			4630.00	52.00 Bottom Packers & Anchor
Total Tool Length:	80.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co, Inc.

JJ Kuhlman 2-4

250 N Water STE 300
Wichita, KS 67202

4/13/32 Logan KS

Job Ticket: 37536

DST#: 5

ATTN: Tom Funk

Test Start: 2010.05.15 @ 16:49:29

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

26 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

85000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1006.00	oily muddy water 5%O,90%W,5%O	9.183
10.00	oil 100%O	0.140

Total Length: 1016.00 ft Total Volume: 9.323 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.093@72F=85,000ppm

API=27@70F=26

