



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste. 300
Wichita, KS 67202

ATTN: Vern Schrag

Epard #2-27

27-10s-34w Thomas,KS

Start Date: 2012.05.22 @ 20:05:58

End Date: 2012.05.23 @ 02:56:58

Job Ticket #: 46517 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.29 @ 11:55:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N. Water ste. 300
 Wichita, KS 67202
 ATTN: Vern Schrag

27-10s-34w Thomas,KS

Epard #2-27

Job Ticket: 46517

DST#: 1

Test Start: 2012.05.22 @ 20:05:58

GENERAL INFORMATION:

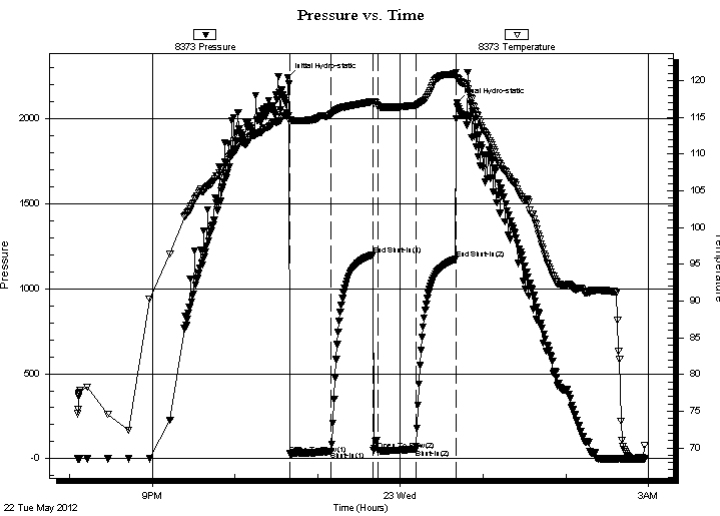
Formation: **LKC**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:39:43
 Time Test Ended: 02:56:58
 Interval: **4262.00 ft (KB) To 4355.00 ft (KB) (TVD)**
 Total Depth: 4355.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Turley
 Unit No: 60
 Reference Elevations: 3199.00 ft (KB)
 3188.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8373

Inside

Press @ Run Depth: 55.60 psig @ 4263.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.05.22 End Date: 2012.05.23 Last Calib.: 2012.05.23
 Start Time: 20:06:03 End Time: 02:56:57 Time On Btm: 2012.05.22 @ 22:38:13
 Time Off Btm: 2012.05.23 @ 00:40:58

TEST COMMENT: IF: 1/4 blow died in 12 min.
 IS: No return.
 FF: No blow.
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2244.31	115.25	Initial Hydro-static
2	27.95	114.36	Open To Flow (1)
32	42.08	115.42	Shut-In(1)
62	1199.08	117.14	End Shut-In(1)
66	47.21	116.49	Open To Flow (2)
93	55.60	116.61	Shut-In(2)
122	1174.54	120.88	End Shut-In(2)
123	2093.18	120.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	mud 100% _m	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46517

DST#: 1

ATTN: Vern Schrag

Test Start: 2012.05.22 @ 20:05:58

Tool Information

Drill Pipe:	Length: 4075.00 ft	Diameter: 3.80 inches	Volume: 57.16 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: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 58.05 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4262.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	93.00 ft			
Tool Length:	121.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4235.00	
Shut In Tool	5.00			4240.00	
Hydraulic tool	5.00			4245.00	
Jars	5.00			4250.00	
Safety Joint	3.00			4253.00	
Packer	5.00			4258.00	28.00 Bottom Of Top Packer
Packer	4.00			4262.00	
Stubb	1.00			4263.00	
Recorder	0.00	8373	Inside	4263.00	
Recorder	0.00	8356	Outside	4263.00	
Perforations	22.00			4285.00	
Change Over Sub	1.00			4286.00	
Drill Pipe	63.00			4349.00	
Change Over Sub	1.00			4350.00	
Bullnose	5.00			4355.00	93.00 Bottom Packers & Anchor

Total Tool Length: 121.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46517

DST#: 1

ATTN: Vern Schrag

Test Start: 2012.05.22 @ 20:05:58

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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	mud 100%m	0.295

Total Length: 60.00 ft Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

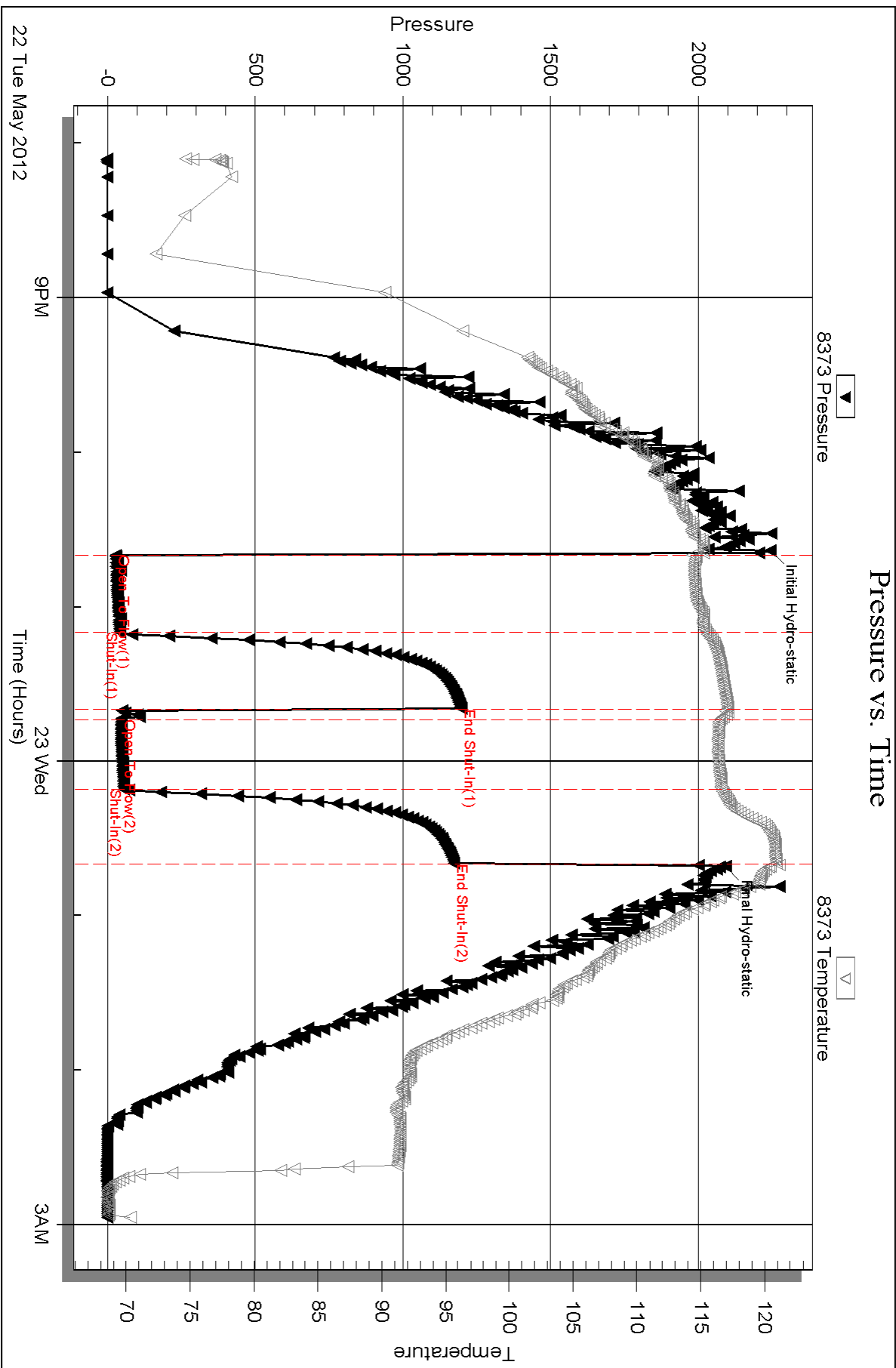
Serial #: 8373

Inside

Murfin Drilling Company

Epard #2-27

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 46517

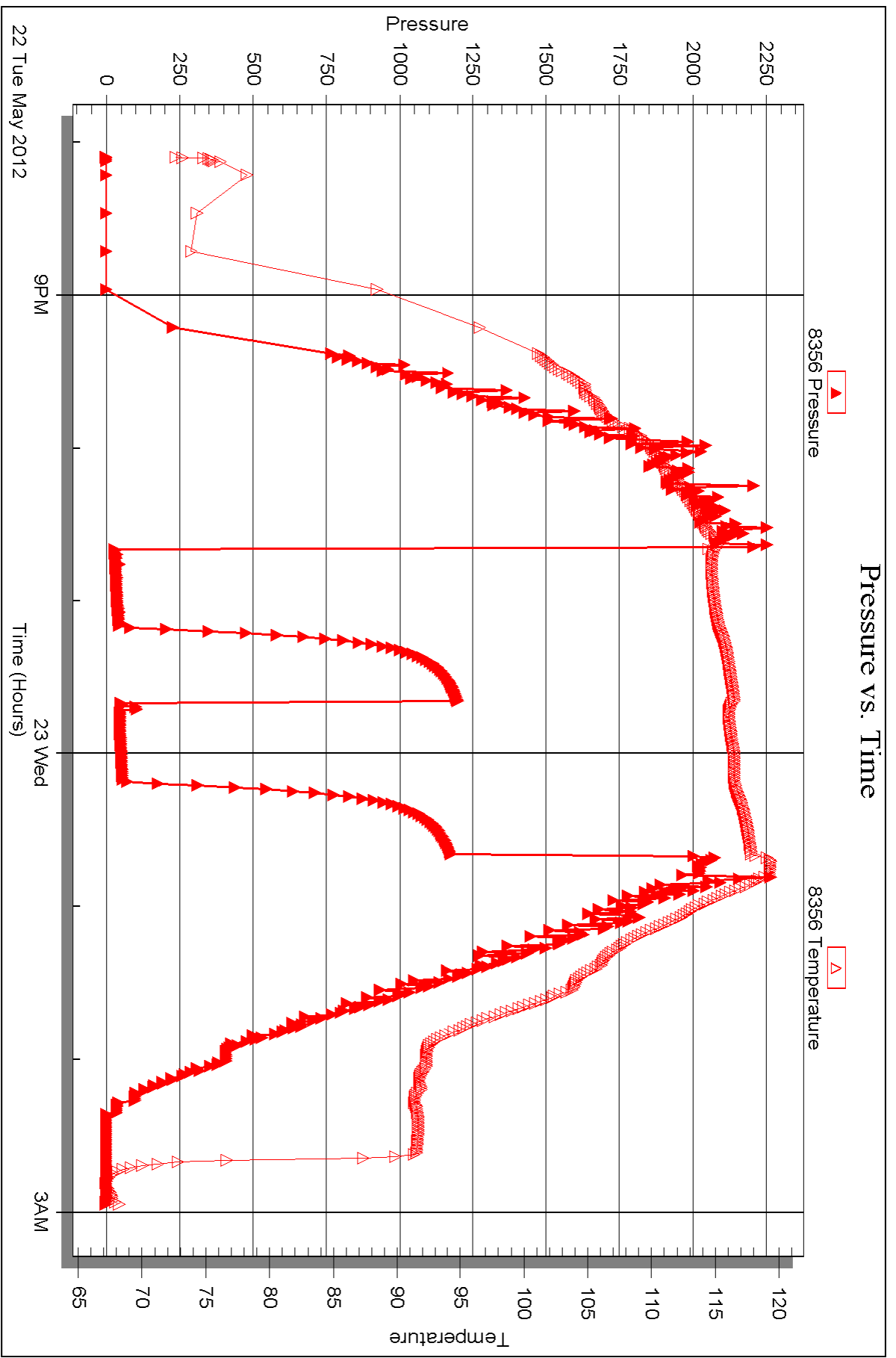
Printed: 2012.05.29 @ 11:55:15

Serial #: 8356

Outside Murfin Drilling Company

Epard #2-27

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 46517

Printed: 2012.05.29 @ 11:55:16



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste. 300
Wichita, KS 67202

ATTN: Vern Schrag

Epard #2-27

27-10s-34w Thomas,KS

Start Date: 2012.05.23 @ 13:06:04

End Date: 2012.05.23 @ 21:24:13

Job Ticket #: 46518 DST #: 2

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

Printed: 2012.05.29 @ 11:53:52



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46518

DST#: 2

ATTN: Vern Schrag

Test Start: 2012.05.23 @ 13:06:04

GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:04:44

Time Test Ended: 21:24:13

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: 4354.00 ft (KB) To 4388.00 ft (KB) (TVD)

Reference Elevations: 3199.00 ft (KB)

Total Depth: 4388.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8373

Inside

Press @ Run Depth: 105.13 psig @ 4355.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.23

End Date:

2012.05.23

Last Calib.:

2012.05.23

Start Time:

13:06:04

End Time:

21:24:13

Time On Btm:

2012.05.23 @ 15:02:59

Time Off Btm:

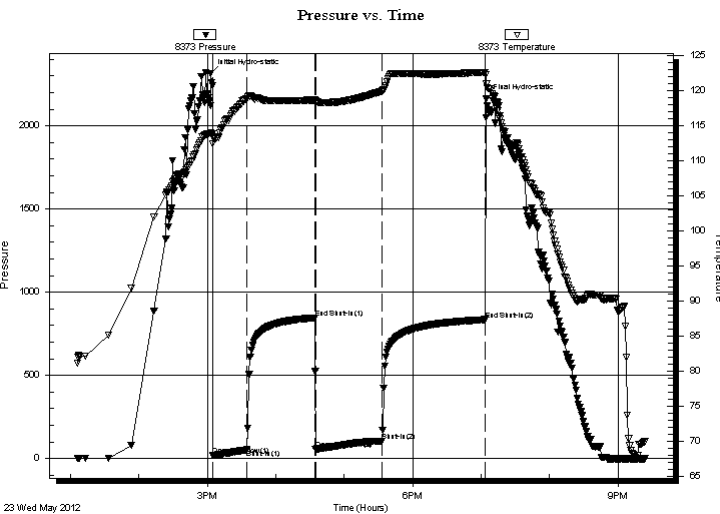
2012.05.23 @ 19:04:43

TEST COMMENT: IF: Surface blow built to 1 1/2.

IS: No return.

FF: No blow.

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2312.96	113.97	Initial Hydro-static
2	19.70	112.48	Open To Flow (1)
32	53.22	118.90	Shut-In(1)
92	846.58	118.69	End Shut-In(1)
92	57.81	118.37	Open To Flow (2)
150	105.13	119.92	Shut-In(2)
241	835.63	122.62	End Shut-In(2)
242	2165.91	120.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	mw 50%w 50%m	0.59
80.00	w cm 30%w 70%m	0.58

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46518

DST#: 2

ATTN: Vern Schrag

Test Start: 2012.05.23 @ 13:06:04

Tool Information

Drill Pipe:	Length: 4168.00 ft	Diameter: 3.80 inches	Volume: 58.47 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 59.36 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4354.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	62.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4327.00	
Shut In Tool	5.00			4332.00	
Hydraulic tool	5.00			4337.00	
Jars	5.00			4342.00	
Safety Joint	3.00			4345.00	
Packer	5.00			4350.00	28.00 Bottom Of Top Packer
Packer	4.00			4354.00	
Stubb	1.00			4355.00	
Recorder	0.00	8373	Inside	4355.00	
Recorder	0.00	8356	Outside	4355.00	
Perforations	28.00			4383.00	
Bullnose	5.00			4388.00	34.00 Bottom Packers & Anchor

Total Tool Length: 62.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46518

DST#: 2

ATTN: Vern Schrag

Test Start: 2012.05.23 @ 13:06:04

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:

29000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	mw 50%w 50%m	0.590
80.00	w cm 30%w 70%m	0.576

Total Length: 200.00 ft Total Volume: 1.166 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .22@76=29000

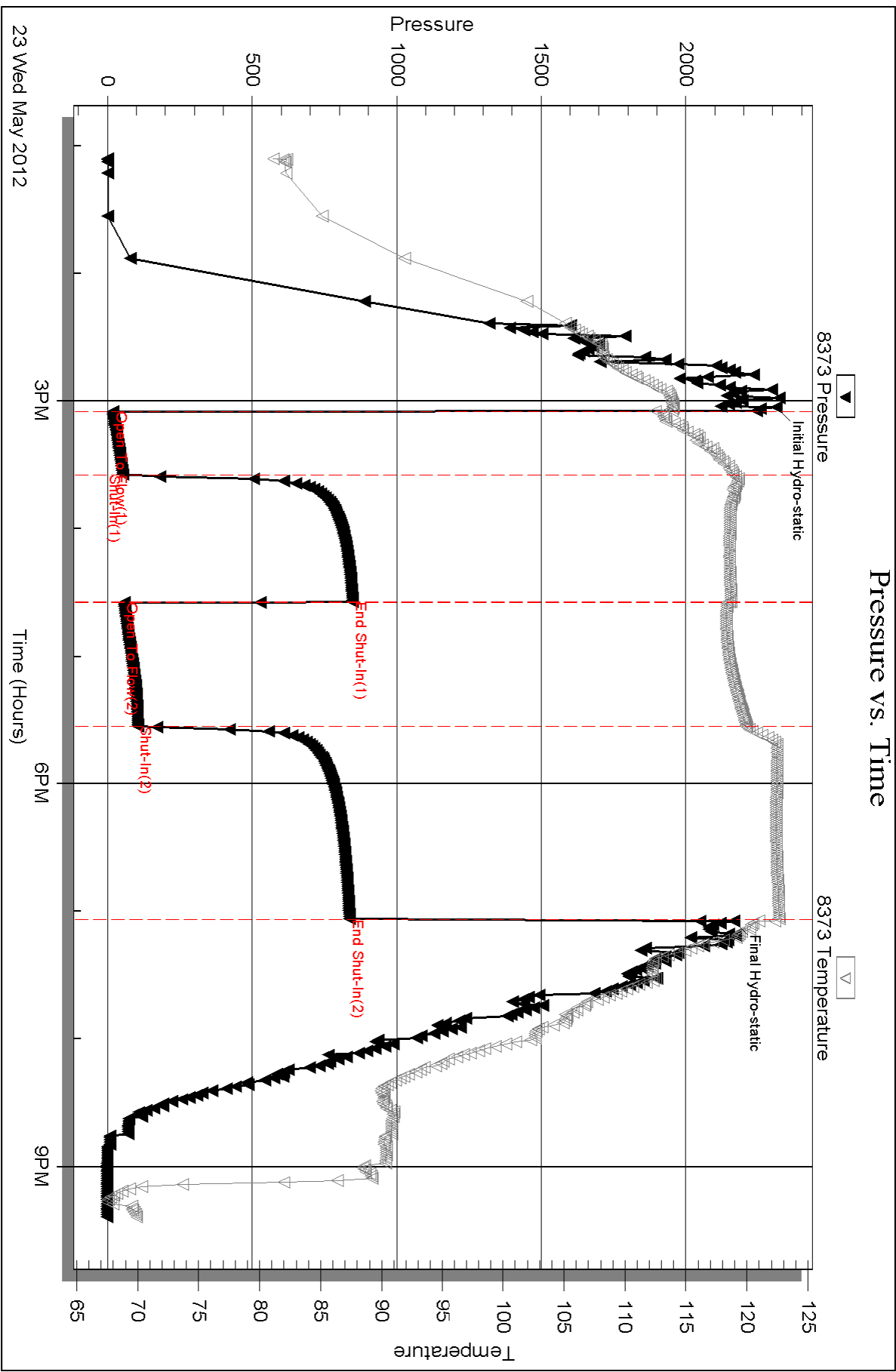
Serial #: 8373

Inside

Murfin Drilling Company

Epad #2-27

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 46518

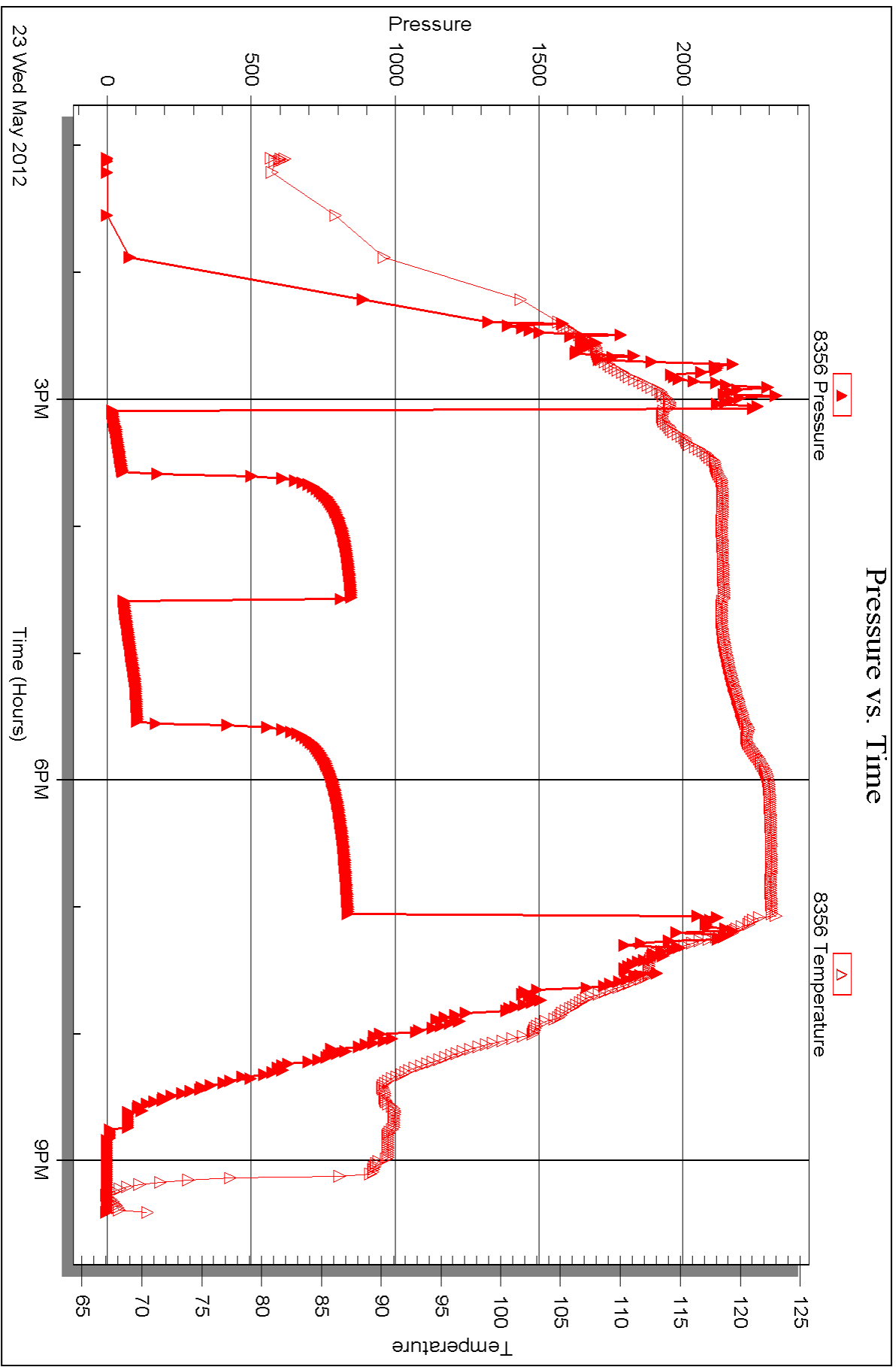
Printed: 2012.05.29 @ 11:53:54

Serial #: 8356

Outside Murfin Drilling Company

Epard #2-27

DST Test Number: 2



23 Wed May 2012

Triobite Testing, Inc

Ref. No: 46518

Printed: 2012.05.29 @ 11:53:54



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste. 300
Wichita, KS 67202

ATTN: Vern Schrag

Epard #2-27

27-10s-34w Thomas,KS

Start Date: 2012.05.25 @ 02:23:56

End Date: 2012.05.25 @ 08:31:56

Job Ticket #: 46519 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.29 @ 11:58:25



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46519

DST#: 3

ATTN: Vern Schrag

Test Start: 2012.05.25 @ 02:23:56

GENERAL INFORMATION:

Formation: **Lower Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:24:56

Time Test Ended: 08:31:56

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: 4569.00 ft (KB) To 4595.00 ft (KB) (TVD)

Reference Elevations: 3199.00 ft (KB)

Total Depth: 4595.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8373

Inside

Press @ Run Depth: 19.52 psig @ 4570.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.25

End Date:

2012.05.25

Last Calib.:

2012.05.25

Start Time: 02:24:01

End Time:

08:31:55

Time On Btm:

2012.05.25 @ 04:23:41

Time Off Btm:

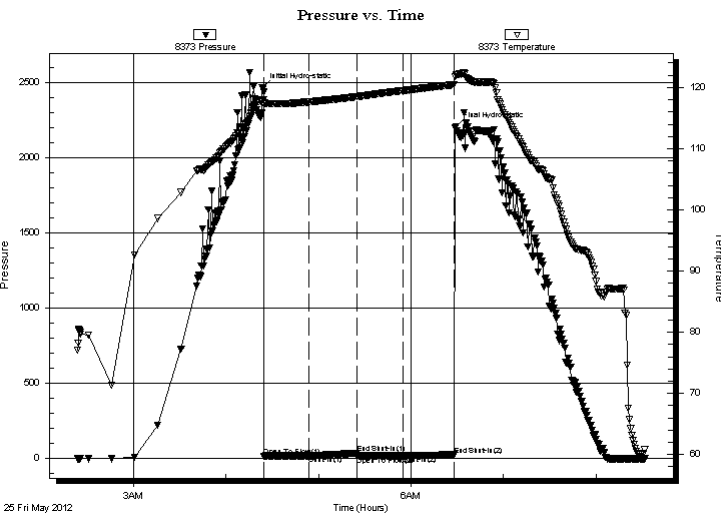
2012.05.25 @ 06:29:11

TEST COMMENT: IF: Surface blow died in 8 min.

IS: No return.

FF: No blow.

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2468.13	117.93	Initial Hydro-static
2	16.68	117.36	Open To Flow (1)
31	19.23	117.65	Shut-In(1)
61	35.90	118.50	End Shut-In(1)
62	18.34	118.50	Open To Flow (2)
91	19.52	119.49	Shut-In(2)
124	25.37	120.45	End Shut-In(2)
126	2206.14	122.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud 100%m	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46519

DST#: 3

ATTN: Vern Schrag

Test Start: 2012.05.25 @ 02:23:56

Tool Information

Drill Pipe:	Length: 4386.00 ft	Diameter: 3.80 inches	Volume: 61.52 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 62.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4569.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4542.00	
Shut In Tool	5.00			4547.00	
Hydraulic tool	5.00			4552.00	
Jars	5.00			4557.00	
Safety Joint	3.00			4560.00	
Packer	5.00			4565.00	28.00 Bottom Of Top Packer
Packer	4.00			4569.00	
Stubb	1.00			4570.00	
Recorder	0.00	8373	Inside	4570.00	
Recorder	0.00	8356	Outside	4570.00	
Perforations	20.00			4590.00	
Bullnose	5.00			4595.00	26.00 Bottom Packers & Anchor

Total Tool Length: 54.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company
250 N. Water ste. 300
Wichita, KS 67202
ATTN: Vern Schrag

27-10s-34w Thomas,KS
Epard #2-27
Job Ticket: 46519 **DST#: 3**
Test Start: 2012.05.25 @ 02:23:56

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: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 6900.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud 100%m	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

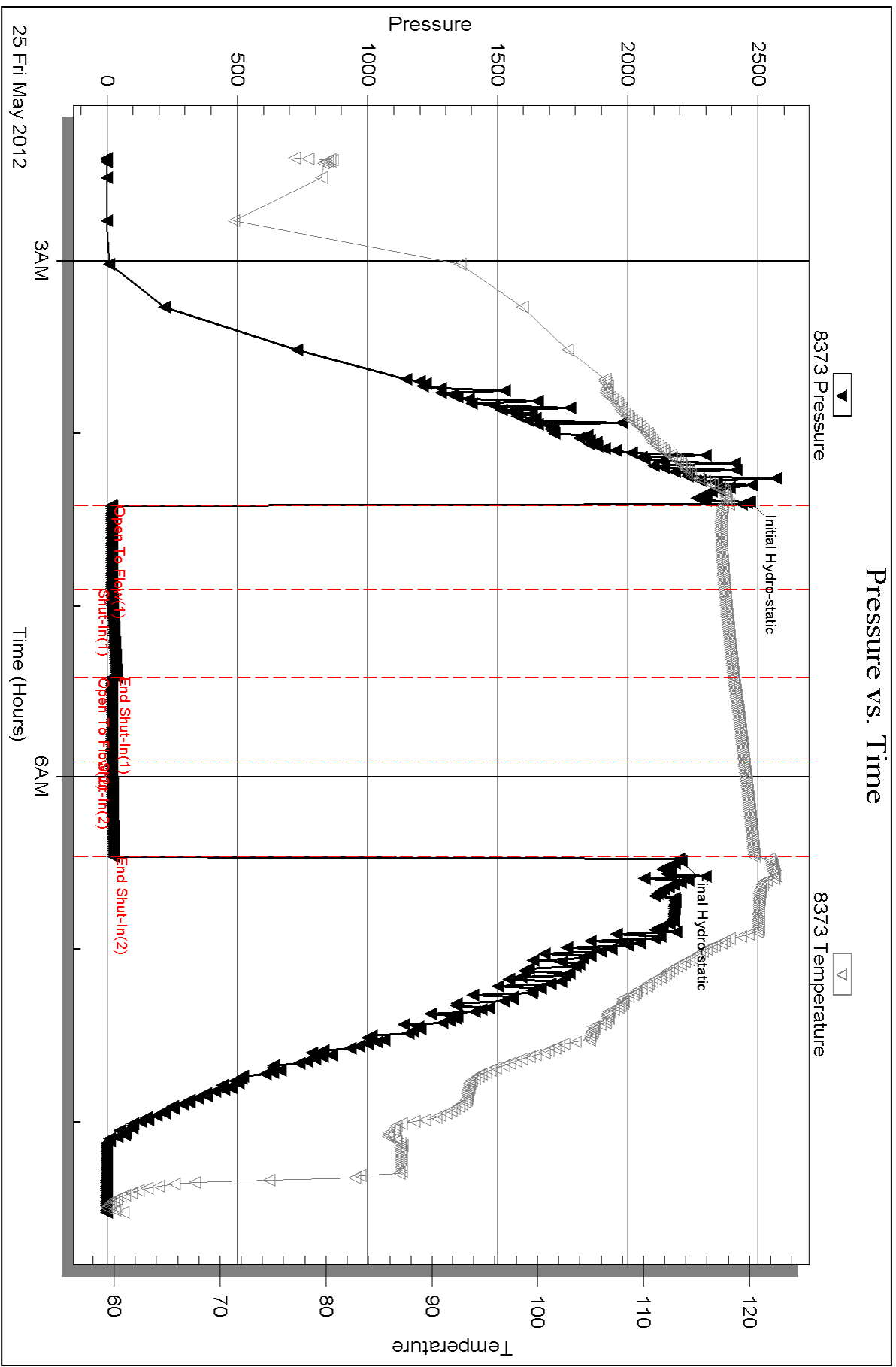
Serial #: 8373

Inside

Murfin Drilling Company

Epard #2-27

DST Test Number: 3

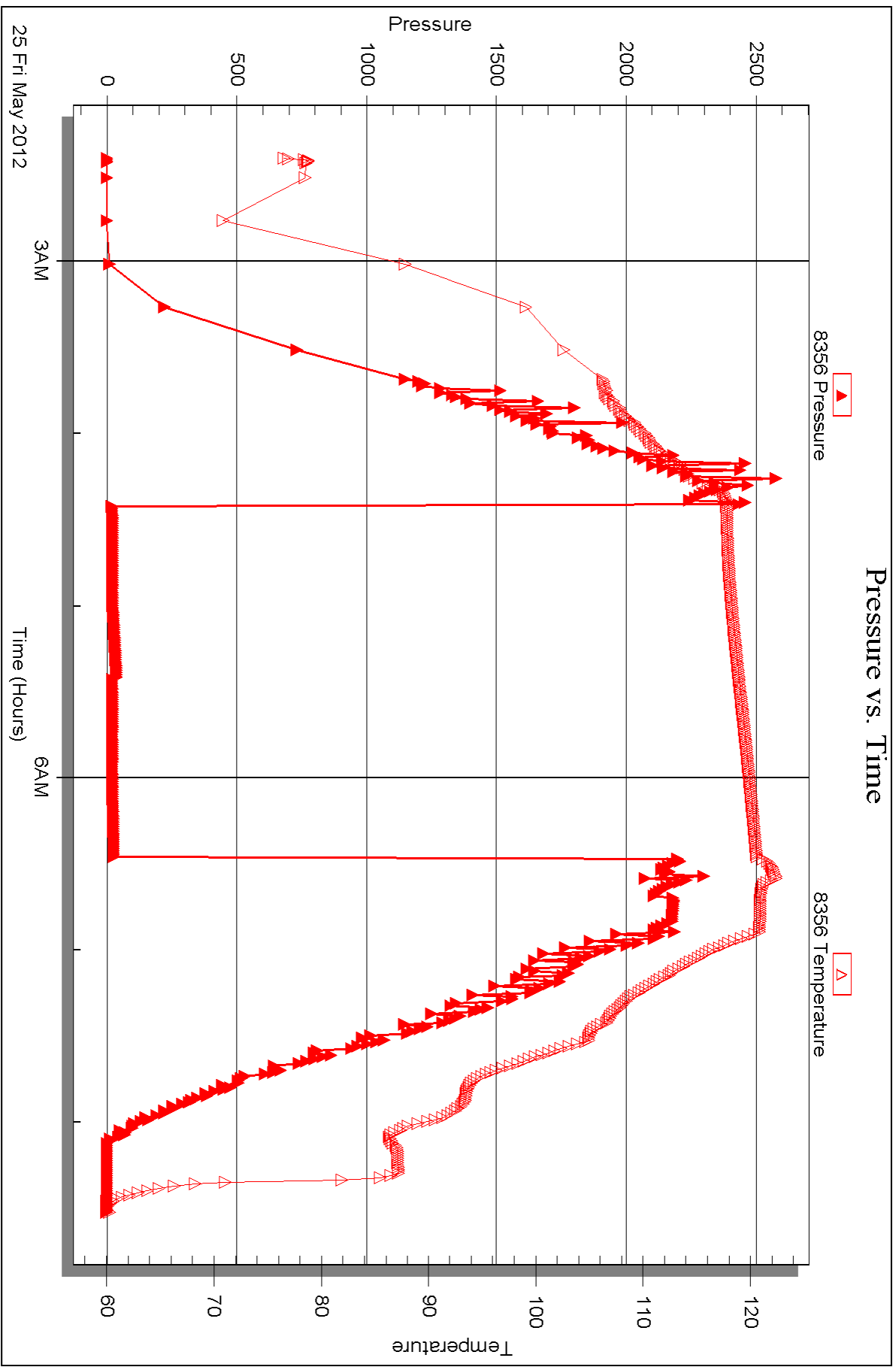


Serial #: 8356

Outside Murfin Drilling Company

Epard #2-27

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N. Water ste. 300
Wichita, KS 67202

ATTN: Vern Schrag

Epard #2-27

27-10s-34w Thomas,KS

Start Date: 2012.05.26 @ 05:30:49

End Date: 2012.05.26 @ 11:27:19

Job Ticket #: 46520 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.29 @ 11:45:48

Murfin Drilling Company

27-10s-34w Thomas,KS

Epard #2-27

DST # 4

Cherkee- Johnson

2012.05.26



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N. Water ste. 300
 Wichita, KS 67202
 ATTN: Vern Schrag

27-10s-34w Thomas,KS

Epard #2-27

Job Ticket: 46520

DST#: 4

Test Start: 2012.05.26 @ 05:30:49

GENERAL INFORMATION:

Formation: **Cherkee- Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:46:19

Time Test Ended: 11:27:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: **4638.00 ft (KB) To 4720.00 ft (KB) (TVD)**

Reference Elevations: 3199.00 ft (KB)

Total Depth: 4720.00 ft (KB) (TVD)

3188.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8373

Inside

Press @ Run Depth: 21.90 psig @ 4639.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.26

End Date:

2012.05.26

Last Calib.:

2012.05.26

Start Time: 05:30:54

End Time:

11:27:18

Time On Btm:

2012.05.26 @ 07:45:04

Time Off Btm:

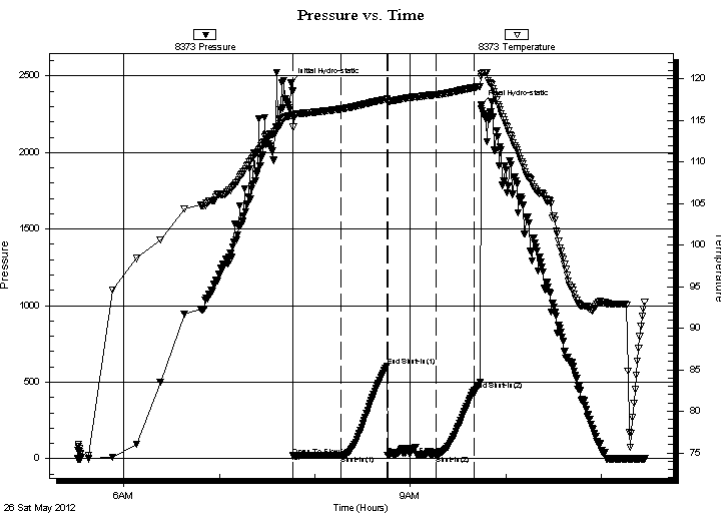
2012.05.26 @ 09:44:34

TEST COMMENT: IF: Surface blow died in 6 min.

IS: No return.

FF: No blow.

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2457.23	115.60	Initial Hydro-static
2	18.74	114.18	Open To Flow (1)
32	21.25	116.38	Shut-In(1)
60	604.22	117.57	End Shut-In(1)
61	21.45	117.27	Open To Flow (2)
91	21.90	118.08	Shut-In(2)
115	446.60	118.96	End Shut-In(2)
120	2311.47	120.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% m	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

27-10s-34w Thomas,KS

250 N. Water ste. 300
Wichita, KS 67202

Epard #2-27

Job Ticket: 46520

DST#: 4

ATTN: Vern Schrag

Test Start: 2012.05.26 @ 05:30:49

Tool Information

Drill Pipe:	Length: 4450.00 ft	Diameter: 3.80 inches	Volume: 62.42 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 75000.00 lb
			Total Volume: 63.31 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4638.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	110.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4611.00	
Shut In Tool	5.00			4616.00	
Hydraulic tool	5.00			4621.00	
Jars	5.00			4626.00	
Safety Joint	3.00			4629.00	
Packer	5.00			4634.00	28.00 Bottom Of Top Packer
Packer	4.00			4638.00	
Stubb	1.00			4639.00	
Recorder	0.00	8373	Inside	4639.00	
Recorder	0.00	8356	Outside	4639.00	
Perforations	11.00			4650.00	
Change Over Sub	1.00			4651.00	
Drill Pipe	63.00			4714.00	
Change Over Sub	1.00			4715.00	
Bullnose	5.00			4720.00	82.00 Bottom Packers & Anchor

Total Tool Length: 110.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company
250 N. Water ste. 300
Wichita, KS 67202
ATTN: Vern Schrag

27-10s-34w Thomas,KS
Epard #2-27
Job Ticket: 46520 **DST#: 4**
Test Start: 2012.05.26 @ 05:30:49

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: 67.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

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

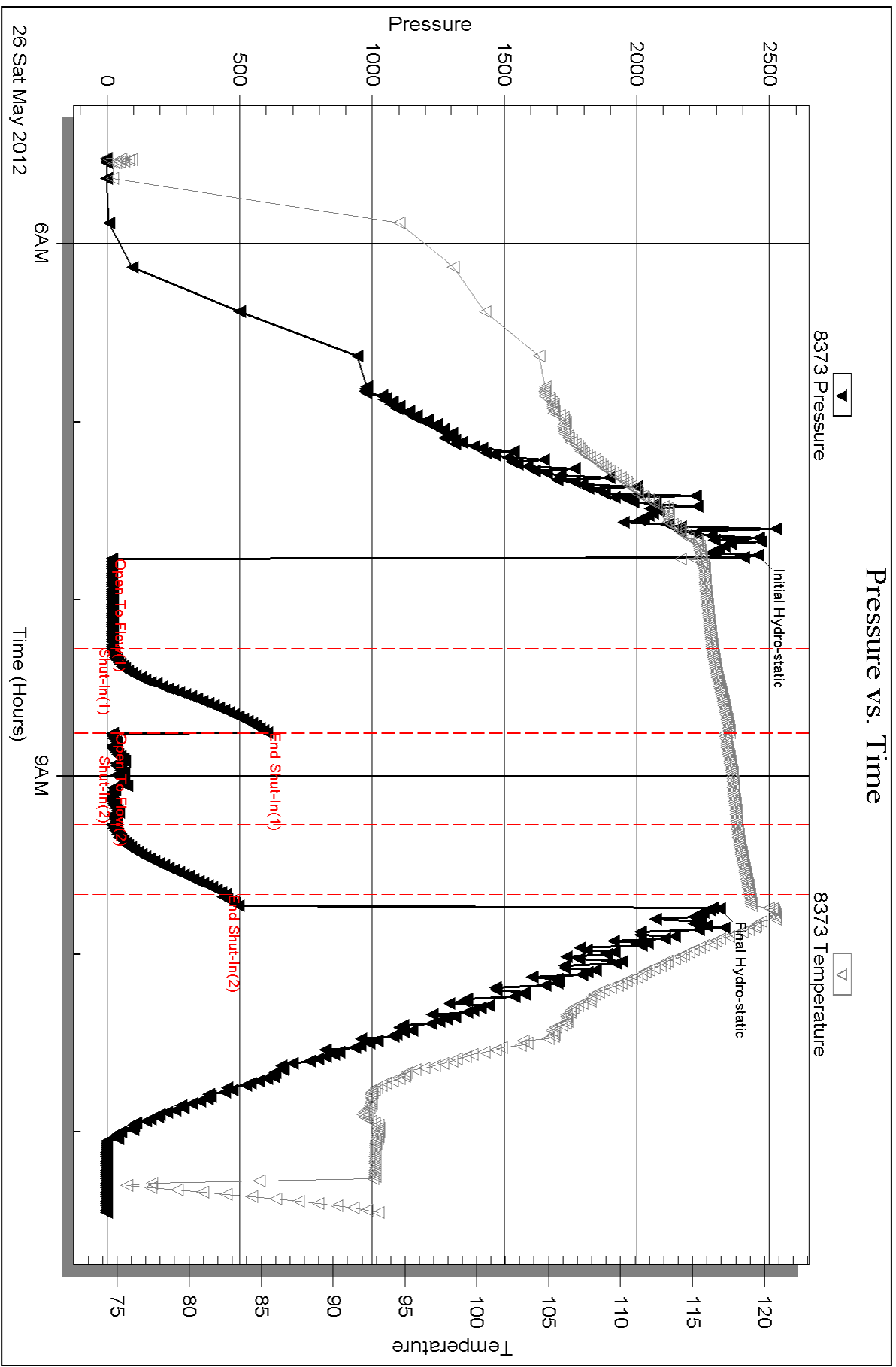
Serial #: 8373

Inside

Murfin Drilling Company

Epard #2-27

DST Test Number: 4

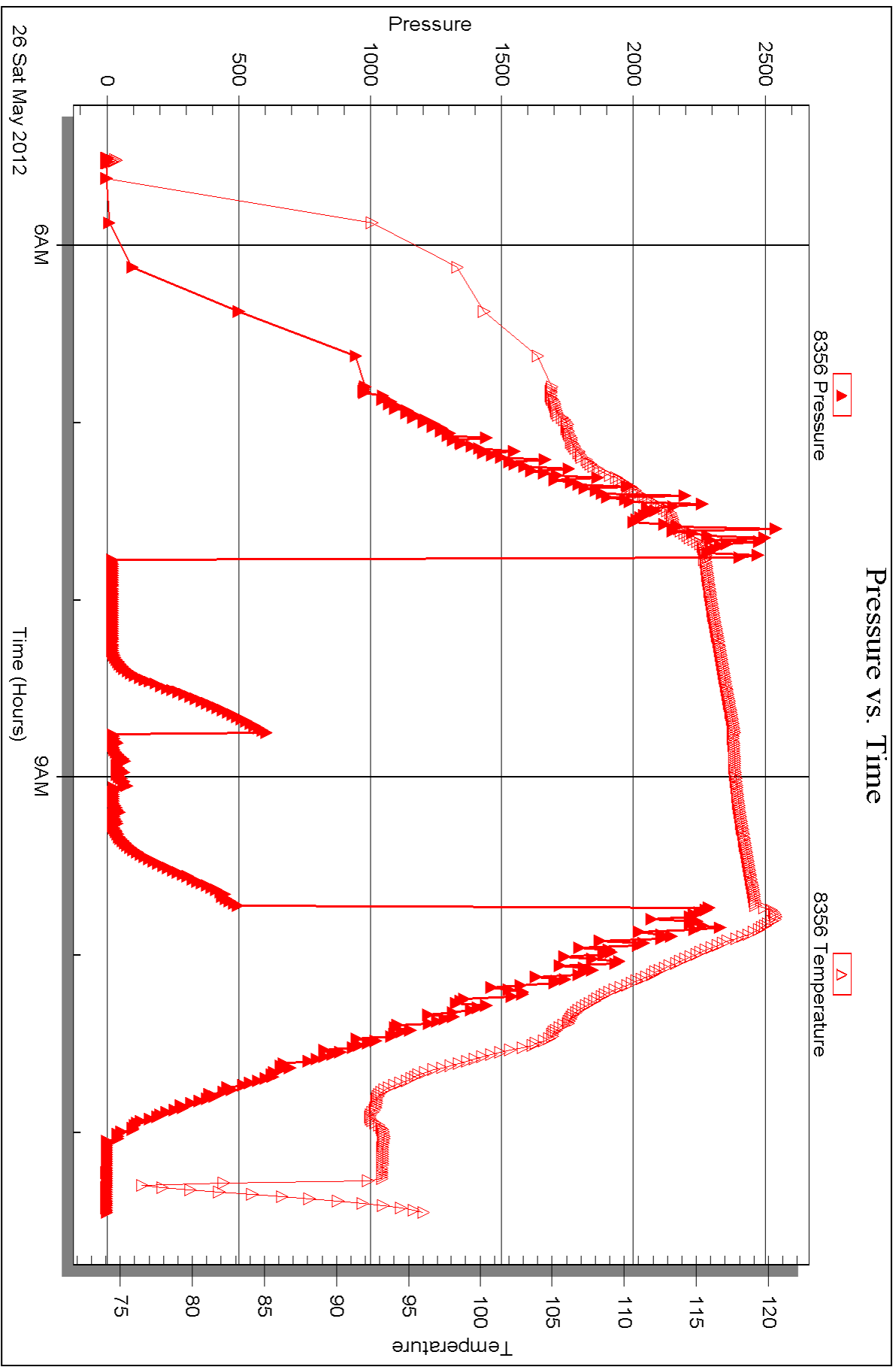


Serial #: 8356

Outside Murfin Drilling Company

Epard #2-27

DST Test Number: 4





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 46517

4/10

Well Name & No. Epard 2-27 Test No. 1 Date 5-22-12
 Company Murfin Drilling Company Elevation 3199 KB 3188 GL
 Address 250 N. Water St 300 Wichita, KS 67202
 Co. Rep / Geo. Vern Schrag Rig Murfin 20
 Location: Sec. 27 Twp. 10S Rge. 34W Co. Thomas State KS

Interval Tested 4262 4355 Zone Tested KC
 Anchor Length 93 Drill Pipe Run 4075 Mud Wt. 9.1
 Top Packer Depth 4257 Drill Collars Run 180 Vis 64
 Bottom Packer Depth 4262 Wt. Pipe Run — WL 8.0
 Total Depth 4355 Chlorides 7600 ppm System LCM 8

Blow Description IF: 1/4 blow died in 12' min.
IS: No return.
FF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

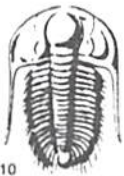
Rec Total 60 BHT 120 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2244 Test 1250 T-On Location 18:50
 (B) First Initial Flow 27 Jars 250 T-Started 20:05
 (C) First Final Flow 42 Safety Joint 75 T-Open 20:39
 (D) Initial Shut-In 1199 Circ Sub N/C T-Pulled 00:39
 (E) Second Initial Flow 47 Hourly Standby T-Out 3:00
 (F) Second Final Flow 55 Mileage 134- 207.70 Comments
 (G) Final Shut-In 1174 Sampler Ruined Shale Packer
 (H) Final Hydrostatic 2093 Straddle Ruined Packer
 Shale Packer Extra Copies
 Extra Packer Sub Total 0
 Extra Recorder Total 1782.70
 Day Standby MP/DST Disc't
 Accessibility
 Sub Total 1782.70

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

Approved By Vern C Schrag Our Representative [Signature]

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



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO: 46518

Well Name & No. Epard 2-27 Test No. 2 Date 5-23-12
 Company Murfin Drilling Company Elevation 3199 KB 3188 GL
 Address _____
 Co. Rep / Geo. Vern Skrag Rig Murfin 20
 Location: Sec. 27 Twp. 105 Rge. 34W Co. Thomas State K5

Interval Tested 4354 4388 Zone Tested K
 Anchor Length 34 4349 Drill Pipe Run 4168 Mud Wt. 9.3
 Top Packer Depth 4349 4354 Drill Collars Run 180 Vis 54
 Bottom Packer Depth 4354 Wt. Pipe Run — WL 8.8
 Total Depth 4388 Chlorides 8500 ppm System LCM 8
 Blow Description IF: Surface blow built to 1 1/2,
IS: No return.
FF: Surface blow built to 3,
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>WCM</u>		<u>30</u>	<u>70</u>	
<u>120</u>	<u>MW</u>		<u>50</u>	<u>50</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 120 BHT 122 Gravity — API RW .22 @ 76 °F Chlorides 29,000 ppm

(A) Initial Hydrostatic <u>2312</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>12:50</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>13:05</u>
(C) First Final Flow <u>53</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>15:04</u>
(D) Initial Shut-In <u>846</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>19:04</u>
(E) Second Initial Flow <u>57</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>21:30</u>
(F) Second Final Flow <u>105</u>	<input checked="" type="checkbox"/> Mileage <u>134-</u> 207.70	Comments _____
(G) Final Shut-In <u>835</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2165</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Total <u>1782.70</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1782.70</u>	

Approved By Vernon C. Schrag

Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 46519

Well Name & No. Epard 2-27 Test No. 3 Date 5-25-12
 Company Murfin Drilling company Elevation 3199 KB 3188 GL
 Address _____
 Co. Rep / Geo. Vern Schrag Rig Murfin 20
 Location: Sec. 27 Twp. 105 Rge. 34W Co. Thomas State KS

Interval Tested 4569 4595 Zone Tested Lower prwnee
 Anchor Length 26 Drill Pipe Run 4386 Mud Wt. 9.2
 Top Packer Depth 4564 Drill Collars Run 180 Vis 62
 Bottom Packer Depth 4569 Wt. Pipe Run — WL 7.6
 Total Depth 4595 Chlorides 6900 ppm System LCM 7

Blow Description IF: surface blow died in 8 min.
IS: NO return.
FF: NO blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 118 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2468 Test 1250 T-On Location 2:05
 (B) First Initial Flow 16 Jars 250 T-Started 2:23
 (C) First Final Flow 19 Safety Joint 75 T-Open 4:24
 (D) Initial Shut-In 35 Circ Sub NIC T-Pulled 6:24
 (E) Second Initial Flow 18 Hourly Standby _____ T-Out 8:35
 (F) Second Final Flow 19 Mileage 134- 207.70 Comments _____
 (G) Final Shut-In 25 Sampler _____
 (H) Final Hydrostatic 2206 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby 1d 4.5h
 Accessibility _____
 Sub Total 1782.70

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

Sub Total 150
 Total 1932.70
 MP/DST Disc't _____

Approved By Vernon C. Schrag

Our Representative [Signature]



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 46520

Well Name & No. Epyrd 2-27 Test No. 4 Date 5-26-12
 Company Murfin Drilling Company Elevation 3199 KB 3188 GL
 Address _____
 Co. Rep / Geo. Vern Schrag Rig Murfin 20
 Location: Sec. 27 Twp. 105 Rge. 34W Co. Thomas State KS

Interval Tested 4638 4720 Zone Tested Cherokee - Johnson
 Anchor Length 82 Drill Pipe Run 4450 Mud Wt. 9.0
 Top Packer Depth 4633 Drill Collars Run 180 Vis 67
 Bottom Packer Depth 4638 Wt. Pipe Run — WL 7.2
 Total Depth 4720 Chlorides 8000 ppm System LCM 8

Blow Description IF: surface blow died in 6 min.
IS: No return.
FF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>MUD</u>			<u>160</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 120 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2457</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>5:14</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>5:30</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>7:45</u>
(D) Initial Shut-In <u>604</u>	<input checked="" type="checkbox"/> Circ Sub <u>NK</u>	T-Pulled <u>9:45</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>11:30</u>
(F) Second Final Flow <u>21</u>	<input checked="" type="checkbox"/> Mileage <u>134</u> - 207.7	Comments _____
(G) Final Shut-In <u>446</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2311</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

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

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1782.70

Sub Total 0
 Total 1782.70
 MP/DST Disc't _____

Approved By Vern Schrag Our Representative [Signature]
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