



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&D Exploration LLC

28-18s-13w Barton,KS

PO Box 387
Hoisington KS 67544

Doonan A #3

Job Ticket: 52301

DST#: 1

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.19 @ 10:59:19

Tool Information

Drill Pipe:	Length: 3056.00 ft	Diameter: 3.80 inches	Volume: 42.87 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 42.87 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3060.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	99.00 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			3032.00	
Shut In Tool	5.00			3037.00	
Hydraulic tool	5.00			3042.00	
Jars	5.00			3047.00	
Safety Joint	3.00			3050.00	
Packer	5.00			3055.00	29.00 Bottom Of Top Packer
Packer	5.00			3060.00	
Stubb	1.00			3061.00	
Recorder	0.00	6773	Outside	3061.00	
Recorder	0.00	6755	Inside	3061.00	
Change Over Sub	1.00			3062.00	
Drill Pipe	31.00			3093.00	
Change Over Sub	1.00			3094.00	
Perforations	33.00			3127.00	
Bullnose	3.00			3130.00	70.00 Bottom Packers & Anchor

Total Tool Length: 99.00



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Job Ticket: 52301

DST#: 1

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.19 @ 10:59:19

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:

42000 ppm

Viscosity: 45.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.78 in³

Gas Cushion Type:

Gas Cushion Pressure:

psig

Resistivity: 0.00 ohm.m

Salinity: 7200.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	WM 45% water 55% mud	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6755

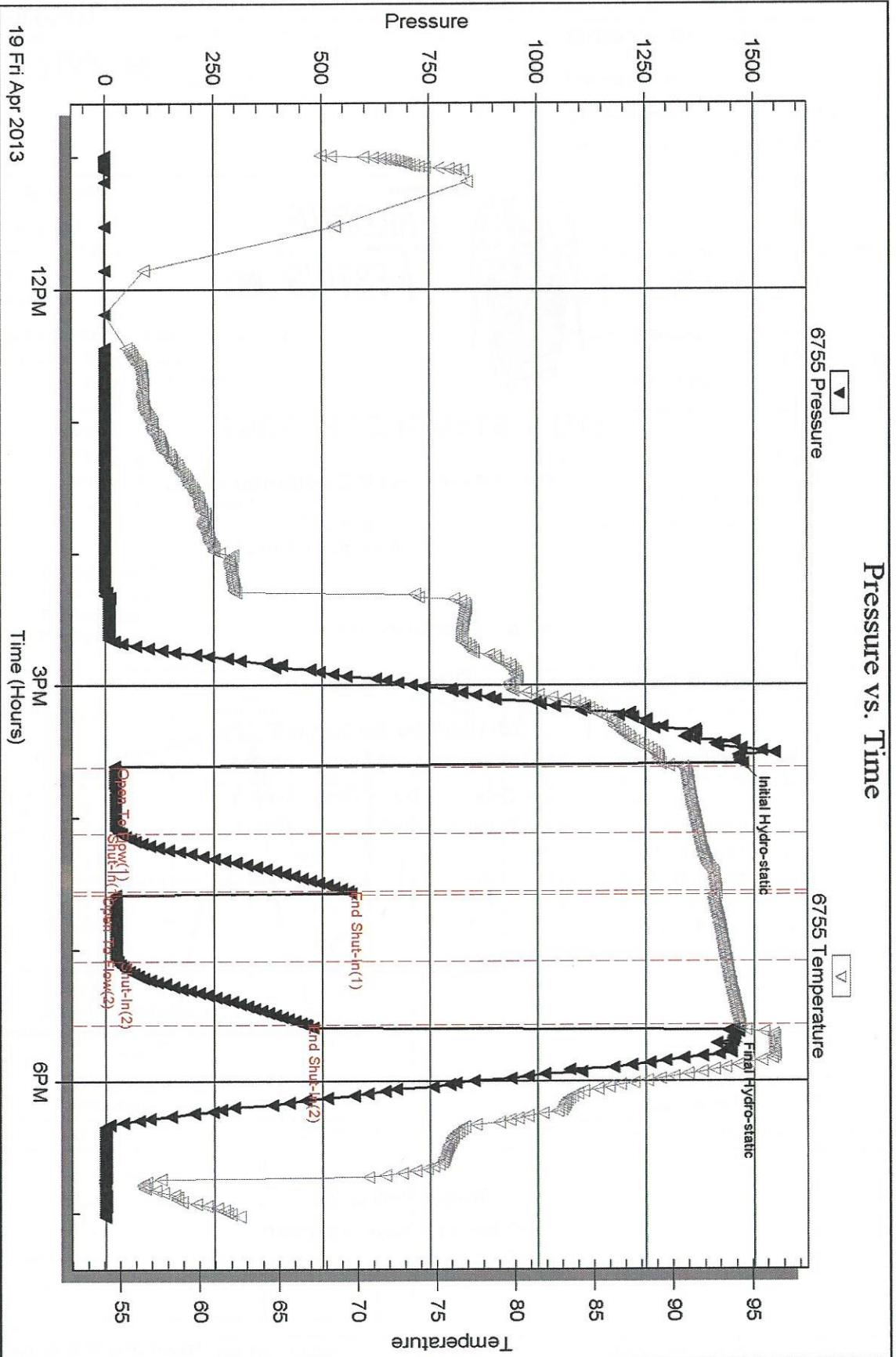
Inside

H&D Exploration LLC

Doonan A #3

DST Test Number: 1

Pressure vs. Time





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DRILL STEM TEST REPORT

TOOL DIAGRAM

H&D Exploration LLC

28-18s-13w Barton, KS

PO Box 387
Hoisington KS 67544

Doonan A #3

Job Ticket: 52302

DST#: 2

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.20 @ 11:09:48

Tool Information

Drill Pipe:	Length: 3183.00 ft	Diameter: 3.80 inches	Volume: 44.65 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 44.65 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3195.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	124.00 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			3167.00	
Shut In Tool	5.00			3172.00	
Hydraulic tool	5.00			3177.00	
Jars	5.00			3182.00	
Safety Joint	3.00			3185.00	
Packer	5.00			3190.00	29.00 Bottom Of Top Packer
Packer	5.00			3195.00	
Stubb	1.00			3196.00	
Recorder	0.00	8676	Outside	3196.00	
Recorder	0.00	6755	Inside	3196.00	
Change Over Sub	0.50			3196.50	
Drill Pipe	62.00			3258.50	
Change Over Sub	0.50			3259.00	
Perforations	28.00			3287.00	
Bullnose	3.00			3290.00	95.00 Bottom Packers & Anchor

Total Tool Length: 124.00



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28-18s-13w Barton,KS

PO Box 387
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Doonan A #3

Job Ticket: 52302

DST#: 2

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.20 @ 11:09:48

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 45.00 sec/qt

Water Loss: 8.78 in³

Resistivity: 0.00 ohm.m

Salinity: 7200.00 ppm

Filter Cake: 0.02 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	MUD	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6755

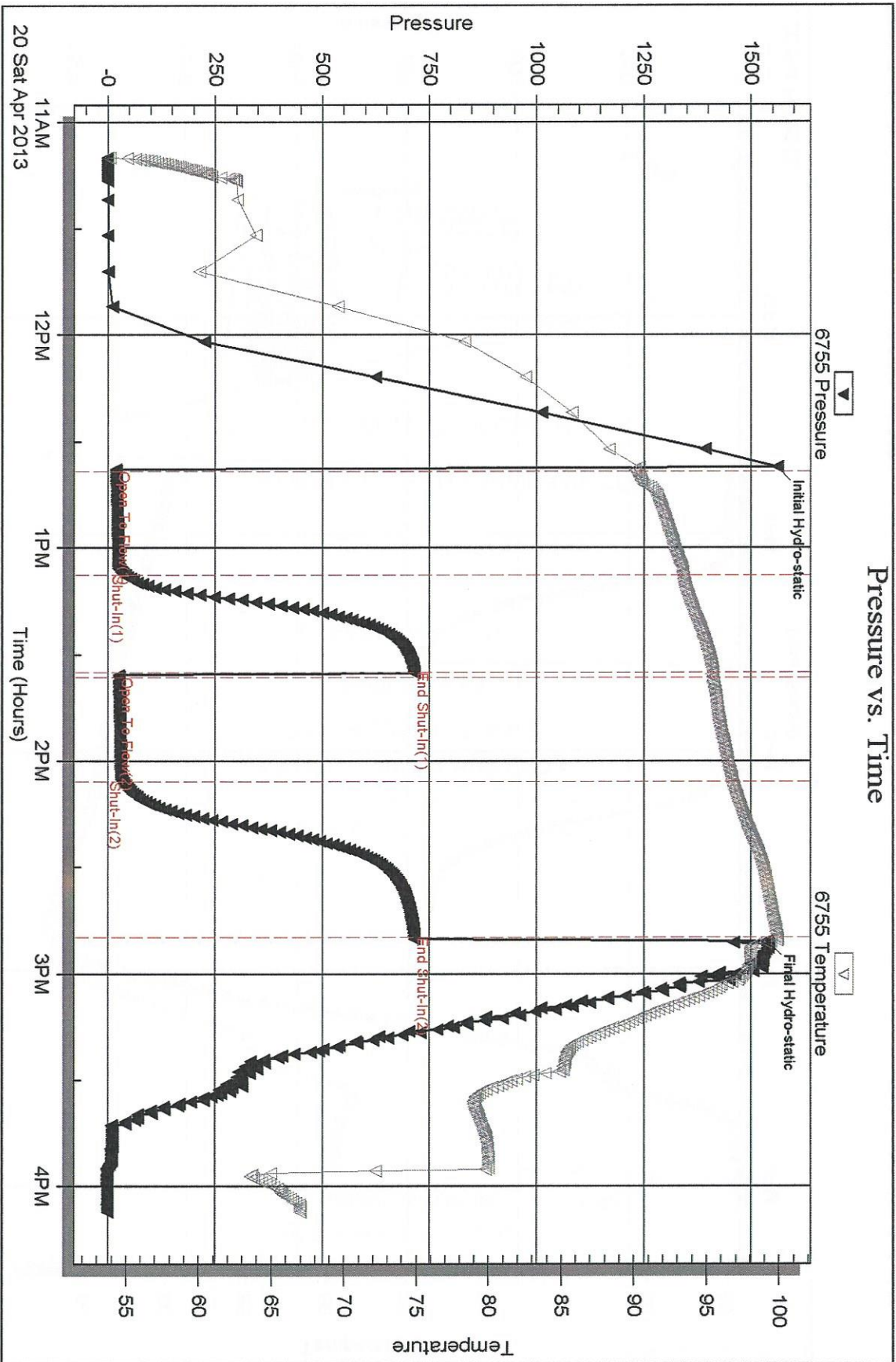
Inside

H&D Exploration LLC

Doonan A #3

DST Test Number: 2

Pressure vs. Time





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DRILL STEM TEST REPORT

TOOL DIAGRAM

H&D Exploration LLC

28-18s-13w Barton,KS

PO Box 387
Hoisington KS 67544

Doonan A #3

Job Ticket: 52303

DST#: 3

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.20 @ 23:22:44

Tool Information

Drill Pipe:	Length: 3277.00 ft	Diameter: 3.80 inches	Volume: 45.97 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 54000.00 lb
		Total Volume:	45.97 bbl	Tool Chased 2.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3280.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	68.00 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			3252.00	
Shut In Tool	5.00			3257.00	
Hydraulic tool	5.00			3262.00	
Jars	5.00			3267.00	
Safety Joint	3.00			3270.00	
Packer	5.00			3275.00	29.00 Bottom Of Top Packer
Packer	5.00			3280.00	
Stubb	1.00			3281.00	
Recorder	0.00	6773	Outside	3281.00	
Recorder	0.00	6755	Inside	3281.00	
Perforations	35.00			3316.00	
Bullnose	3.00			3319.00	39.00 Bottom Packers & Anchor

Total Tool Length: 68.00



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PO Box 387
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Doonan A #3

Job Ticket: 52303

DST#: 3

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.20 @ 23:22:44

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 45.00 sec/qt

Water Loss: 10.77 in³

Resistivity: 0.00 ohm.m

Salinity: 8300.00 ppm

Filter Cake: 0.02 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: ppm

deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	OIL	0.028
18.00	O,M 5%oil 95% mud	0.252

Total Length: 20.00 ft Total Volume: 0.280 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

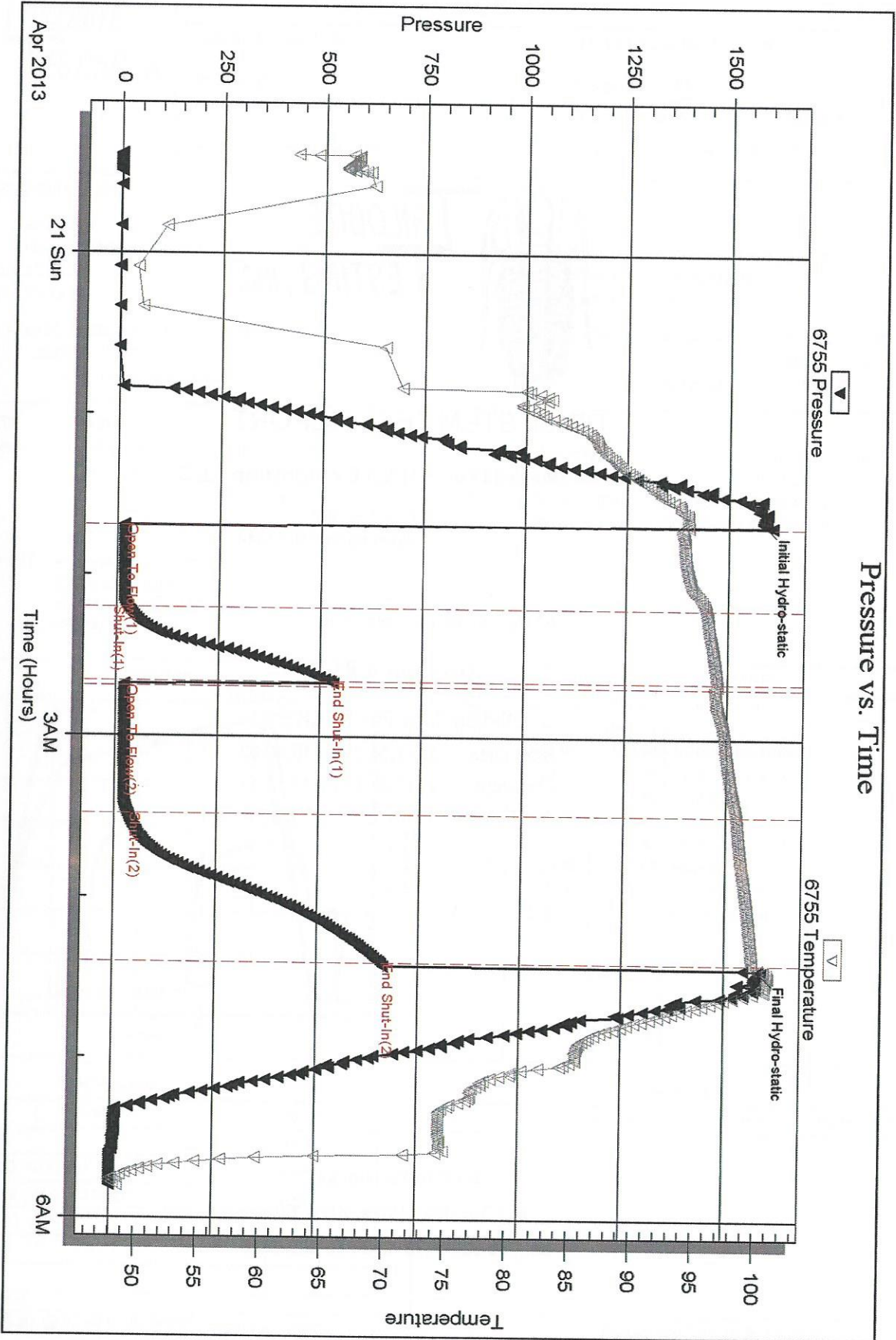
Serial #: 6755

Inside

H&D Exploration LLC

Doonan A #3

DST Test Number: 3





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DRILL STEM TEST REPORT

TOOL DIAGRAM

H&D Exploration LLC

28-18s-13w Barton, KS

PO Box 387
Hoisington KS 67544

Doonan A #3

Job Ticket: 52304

DST#: 4

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.21 @ 10:56:02

Tool Information

Drill Pipe:	Length: 3277.00 ft	Diameter: 3.80 inches	Volume: 45.97 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 45.97 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3284.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	72.00 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			3256.00	
Shut In Tool	5.00			3261.00	
Hydraulic tool	5.00			3266.00	
Jars	5.00			3271.00	
Safety Joint	3.00			3274.00	
Packer	5.00			3279.00	29.00 Bottom Of Top Packer
Packer	5.00			3284.00	
Stubb	1.00			3285.00	
Recorder	0.00	6773	Outside	3285.00	
Recorder	0.00	6755	Inside	3285.00	
Change Over Sub	0.50			3285.50	
Drill Pipe	31.00			3316.50	
Change Over Sub	0.50			3317.00	
Perforations	7.00			3324.00	
Bullnose	3.00			3327.00	43.00 Bottom Packers & Anchor
Total Tool Length:	72.00				



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PO Box 387
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Doonan A #3

Job Ticket: 52304

DST#: 4

ATTN: Gerald Achatz/ Kurt

Test Start: 2013.04.21 @ 10:56:02

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 11.59 in³

Resistivity: 0.00 ohm.m

Salinity: 10.50 ppm

Filter Cake: 0.02 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	OIL	0.028
3.00	M,O 40%mud 60%oil	0.042
30.00	O,M 5%oil 95%mud	0.421

Total Length: 35.00 ft Total Volume: 0.491 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

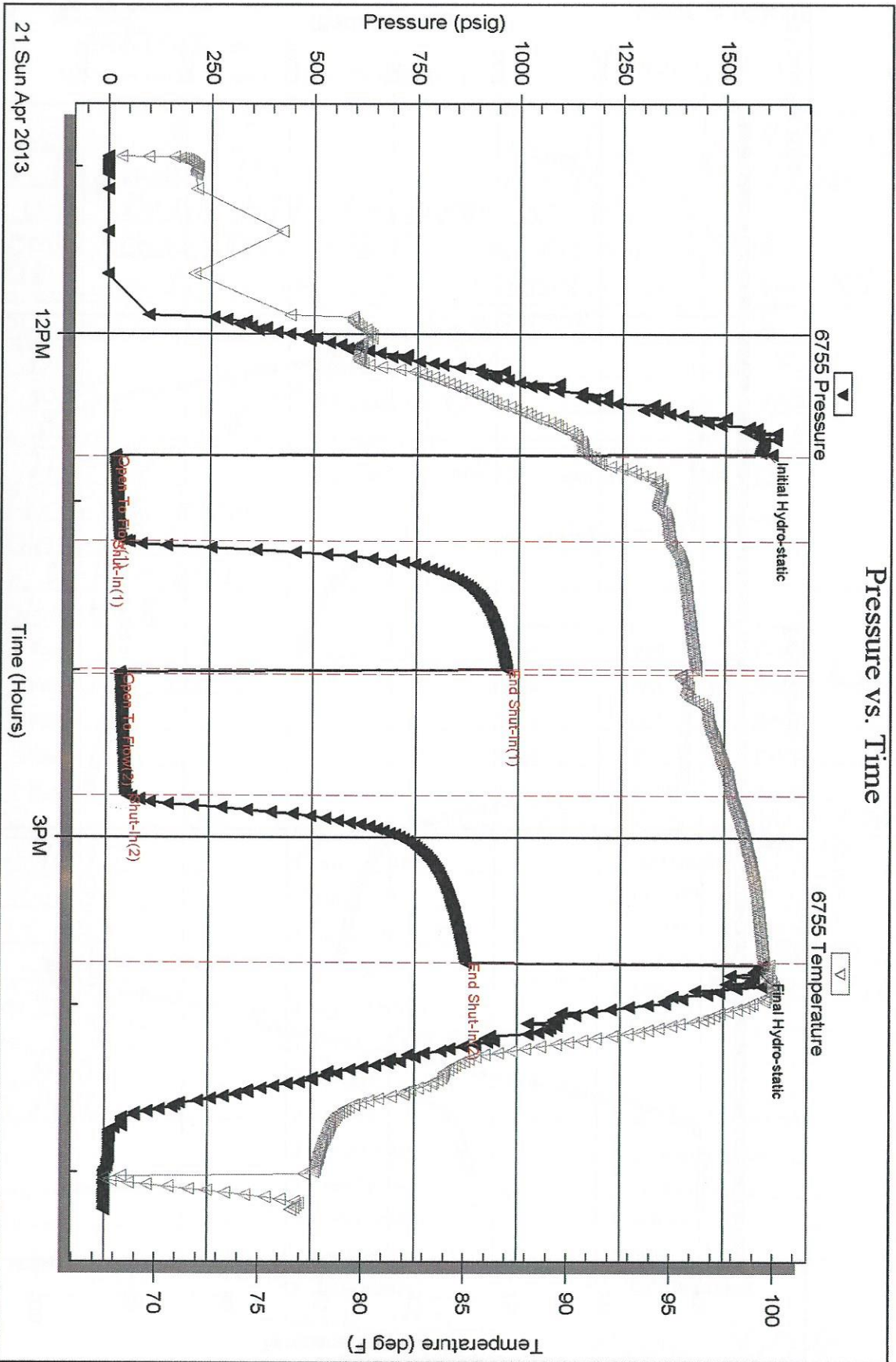
Serial #: 6755

Inside

H&D Exploration LLC

Doonan A #3

DST Test Number: 4



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6615

Date	4-22-13	Sec.	28	Twp.	18	Range	13	County	Barston	State	Ks	On Location		Finish	6:15 PM
Lease								Well No.		Owner					
Dugan "A"								3		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Contractor		Sawwind		12				Charge To							
Type Job		Production						HD Exploration							
Hole Size		7 7/8"		T.D.		3500'		Street							
Csg.		58 14# New		Depth		3367'		City							
Tbg. Size				Depth				State							
Tool				Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Cement Left in Csg.		17'		Shoe Joint		17'		Cement Amount Ordered 180 sc (Common 8% Salt S)							
Meas Line				Displace		81 3/4 BLS		Gensie - 500 gal mud Clear 48							
EQUIPMENT								Common							
Pumptrk		15		No.		Cementer		Nick							
						Helper									
Bulktrk		8		No.		Driver		Heath							
						Driver									
Bulktrk		p.m.		No.		Driver		Rick							
						Driver									
JOB SERVICES & REMARKS								Hulls							
Remarks:								Salt							
Rat Hole								30.5'							
Flowseal															
Mouse Hole								15.5'							
Kol-Seal															
Centralizers								1, 3, 5, 7, 9, 11, 13, 15							
Mud CLR 48															
Baskets								3, 9							
CFL-117 or CD110 CAF 38															
D/V or Port Collar								pre on bottom, break							
Sand															
Handling								Cementing pump 500 gal mud Clear 48, plug Rathok w/ 30.5' Hook to							
Mileage								Casing + 0 m, 100' 5x Cement, shut down							
FLOAT EQUIPMENT															
Guide Shoe								work pump & lines, Released plug + Displace							
Centralizer								with 1 BLS of water.							
Baskets								Released + held.							
AFU Inserts															
Float Shoe								Lift pressure 700 #							
Latch Down								Load plug to 1500 #							
1-Triplex shoe															
Pumptrk Charge								plug + mud							
Mileage								w/ 15.5'							
Tax															
Discount															
Total Charge															
Signature								William J. ...							

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6611

Date	4-16-13	Sec.	28	Twp.	18	Range	13	County	Barton	State	Ks	On Location		Finish	4:30 AM
Location								Harrison, Ks - 5 to 60 Rd, 1E							
Lease	Doonan "A"			Well No.	3			Owner	JAN WINTO						
Contractor	Southwind #2			To Quality Oilwell Cementing, Inc.				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Type Job	Surface			Charge To				H+D Exploration							
Hole Size	10 1/4"			T.D.	707'			Street							
Csg.	8 5/8"			Depth	707'			City							
Tbg. Size				Depth				State							
Tool				Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Cement Left in Csg.	22'			Shoe Joint	22'			Cement Amount Ordered 350 5x Common 3% CC							
Meas Line	Displace 4 3/4 BLS			2K Gel											
EQUIPMENT								Common							
Pumptrk	15	No.	Cementer					Poz. Mix							
			Helper		NICK										
Bulktrk	4	No.	Driver		DAVID			Gel.							
			Driver												
Bulktrk	PIU	No.	Driver		RICK			Calcium							
			Driver												
JOB SERVICES & REMARKS								Hulls							
Remarks:	Cement did Circulate			Salt											
Rat Hole				Flowseal											
Mouse Hole				Kol-Seal											
Centralizers				Mud CLR 48											
Baskets				CFL-117 or CD110 CAF 38											
D/V or Port Collar				Sand											
				Handling											
				Mileage											
FLOAT EQUIPMENT															
				Guide Shoe											
				Centralizer											
				Baskets											
				AFU Inserts											
				Float Shoe											
				Latch Down											
				1- Baffle plate											
				1- Rubber plug											
				Pumptrk Charge											
				Mileage											
Signature <i>William A. [unclear]</i>												Tax			
												Discount			
												Total Charge			