



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1210484  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

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

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

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

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

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

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

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

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

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

1210484

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

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

Prepared For: **Mid Continent Energy Operating co.**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

ATTN: G.M.Canaday

**34-17s-21w Ness KS**

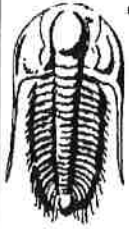
**Halgelgantz # 1**

Start Date: 2002.12.14 @ 12:07:16

End Date: 2002.12.14 @ 17:53:16

Job Ticket #: 16758                      DST #: 1

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mid Continent Energy Operating co.

**Halgelantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16758

**DST#: 1**

ATTN: G.M.Canaday

Test Start: 2002.12.14 @ 12:07:16

## GENERAL INFORMATION:

Formation: **Cherokee**

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

Time Tool Opened: 14:14:16

Time Test Ended: 17:53:16

Test Type: **Conventional Bottom Hole**

Tester: **John Schmidt**

Unit No: **18**

Interval: **4118.00 ft (KB) To 4146.00 ft (KB) (TVD)**

Reference Elevations: **2147.00 ft (KB)**

Total Depth: **4146.00 ft (KB) (TVD)**

**2137.00 ft (CF)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

KB to GR/CF: **10.00 ft**

**Serial #: 3017** **Inside**

Press@RunDepth: **30.98 psig @ 4123.01 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2002.12.14**

End Date:

**2002.12.14**

Last Calib.: **2002.12.14**

Start Time: **12:07:18**

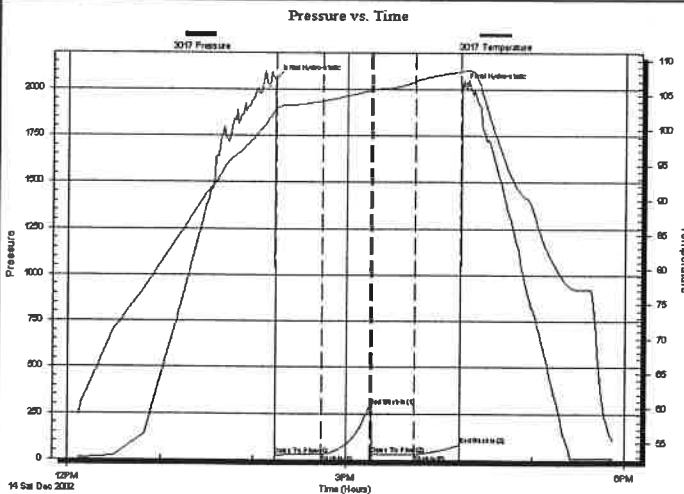
End Time:

**17:53:16**

Time On Btm: **2002.12.14 @ 14:13:46**

Time Off Btm: **2002.12.14 @ 16:13:46**

TEST COMMENT: IF-Weak Dead 20 min.  
FF-Dead



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2050.48	102.88	Initial Hydro-static
1	26.35	103.06	Open To Flow (1)
31	28.65	104.14	Shut-In(1)
62	291.19	105.69	End Shut-In(1)
63	28.81	105.77	Open To Flow (2)
90	30.98	106.95	Shut-In(2)
120	83.27	108.37	End Shut-In(2)
120	2008.21	108.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drilling Mud	0.07

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mid Continent Energy Operating co.

**Halgelgantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16758

**DST#: 1**

ATTN: G.M.Canaday

Test Start: 2002.12.14 @ 12:07:16

### Tool Information

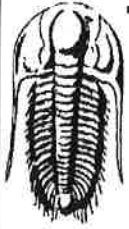
Drill Pipe:	Length: 4104.00 ft	Diameter: 3.80 inches	Volume: 57.57 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	70000.00 lb
			<b>Total Volume: 57.57 bbl</b>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	4118.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	28.02 ft				
Tool Length:	50.02 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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C.O. Sub	1.00			4097.00	
S.I. Tool	5.00			4102.00	
HMV	5.00			4107.00	
Safety Joint	2.00			4109.00	
Packer	4.00			4113.00	22.00 Bottom Of Top Packer
Packer	5.00			4118.00	
Stubb	1.00			4119.00	
Perforations	4.00			4123.00	
Recorder	0.01	3017	Inside	4123.01	
Perforations	20.00			4143.01	
Recorder	0.01	13308	Outside	4143.02	
Bullnose	3.00			4146.02	28.02 Bottom Packers & Anchor

**Total Tool Length: 50.02**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mid Continent Energy Operating co.

**Halgelgantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16758

**DST#: 1**

ATTN: G.M.Canaday

Test Start: 2002.12.14 @ 12:07:16

**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:	ppm
Viscosity: 46.00 sec/qt	Cushion Volume: bbl		
Water Loss: 11.17 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
5.00	Drilling Mud	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

Serial #: 3017

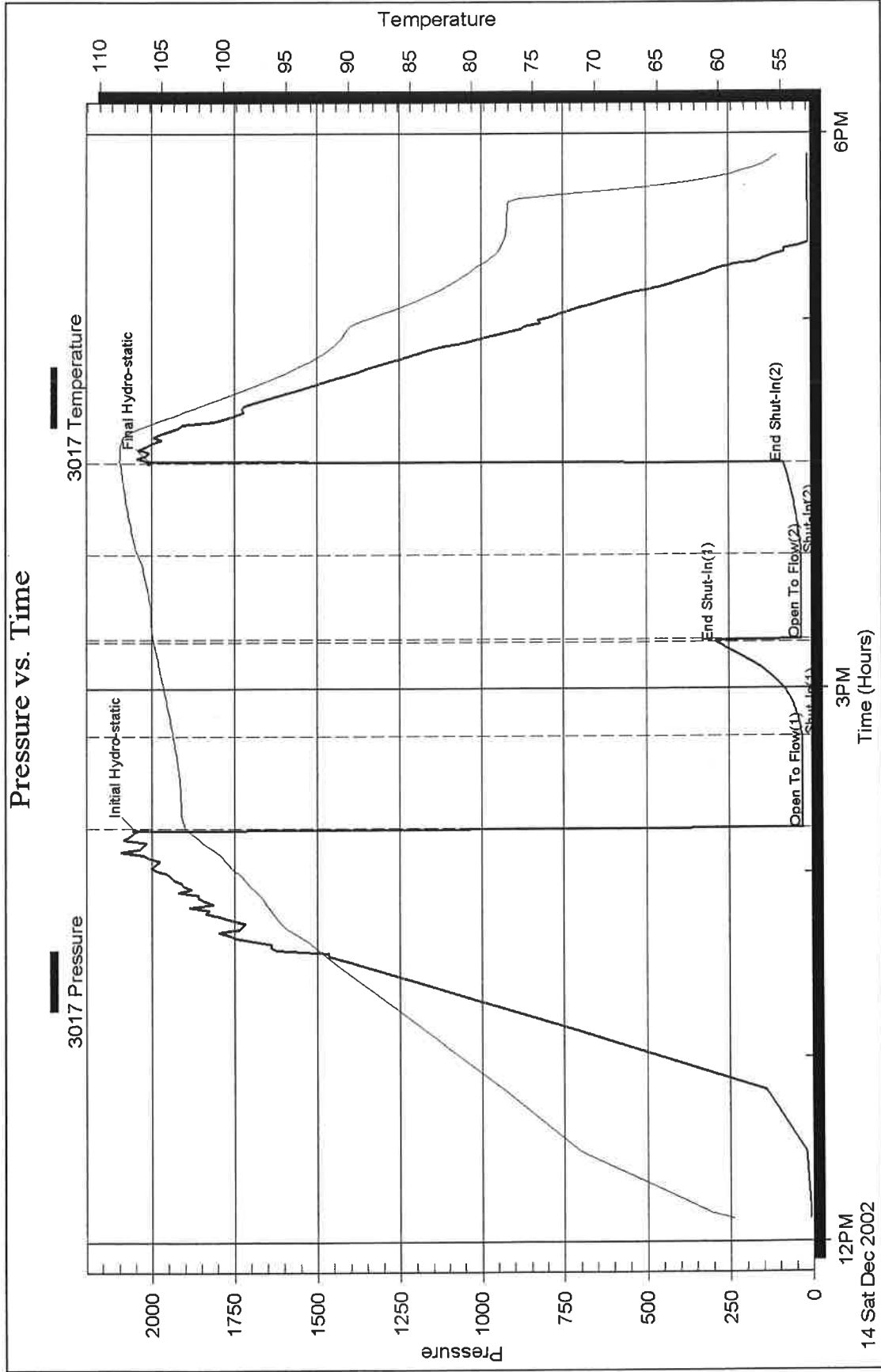
Inside

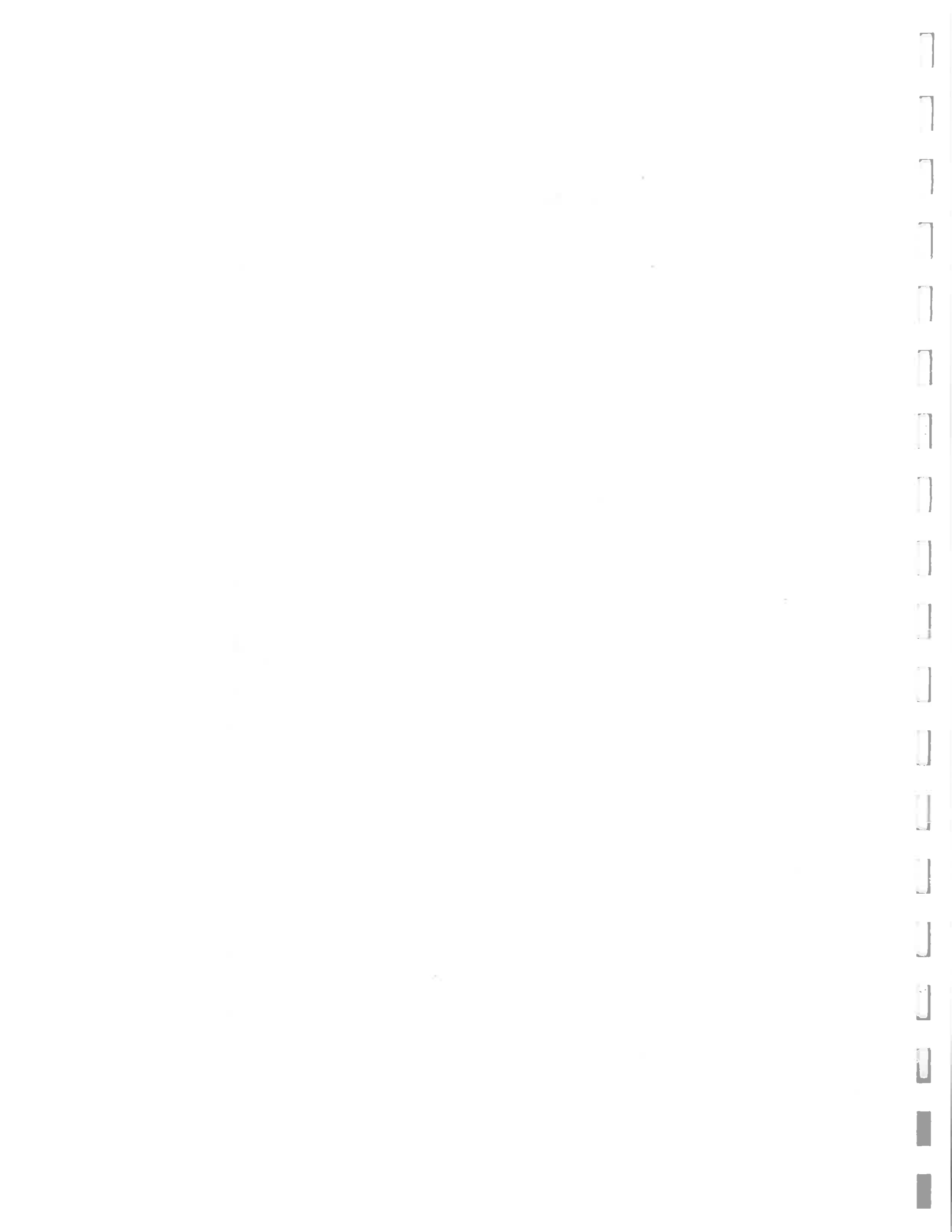
Mid Continent Energy Operating co.

34-17s-21w Ness KS

DST Test Number: 1

### Pressure vs. Time









## DRILL STEM TEST REPORT

Prepared For: **Mid Continent Energy Operating co.**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

ATTN: G.M.Canaday

**34-17s-21w Ness KS**

**Halgelgantz # 1**

Start Date: 2002.12.15 @ 02:03:45

End Date: 2002.12.15 @ 08:47:45

Job Ticket #: 16759                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mid Continent Energy Operating co.

**Halgelantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16759

**DST#: 2**

ATTN: G.M.Canaday

Test Start: 2002.12.15 @ 02:03:45

## GENERAL INFORMATION:

Formation: **Miss.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:35:45

Time Test Ended: 08:47:45

Test Type: Conventional Bottom Hole

Tester: John Schridt

Unit No: 18

Interval: **4188.00 ft (KB) To 4195.00 ft (KB) (TVD)**

Total Depth: 4195.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2147.00 ft (KB)

2137.00 ft (CF)

KB to GR/CF: 10.00 ft

**Serial #: 3017**

**Inside**

Press@RunDepth: 29.78 psig @ 4189.01 ft (KB)

Start Date: 2002.12.15

End Date:

2002.12.15

Start Time: 02:03:47

End Time:

08:47:45

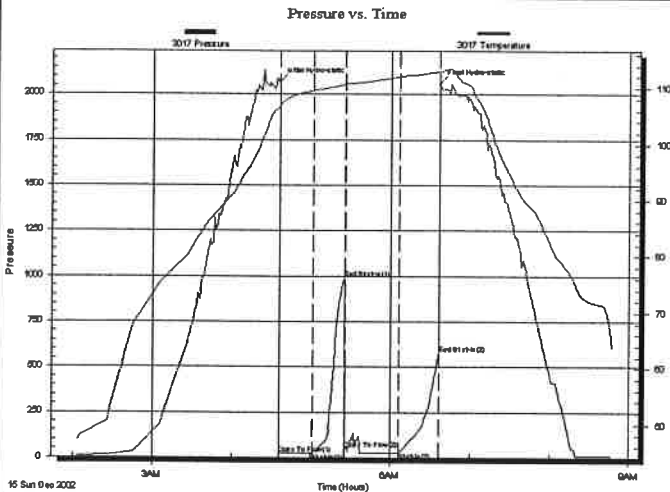
Capacity: 7000.00 psig

Last Calib.: 2002.12.15

Time On Btm: 2002.12.15 @ 04:35:15

Time Off Btm: 2002.12.15 @ 06:36:45

TEST COMMENT: IF-Weak Dead 20 min  
FF-Weak Dead 15 min



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2071.85	106.81	Initial Hydro-static
1	22.35	106.96	Open To Flow (1)
26	27.83	109.62	Shut-In (1)
50	985.50	110.72	End Shut-In (1)
51	47.84	110.75	Open To Flow (2)
92	29.78	112.03	Shut-In (2)
121	573.19	112.94	End Shut-In (2)
122	2058.57	112.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud with oil skum	0.14

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mid Continent Energy Operating co.

**Halgelgantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16759

**DST#: 2**

ATTN: G.M.Canaday

Test Start: 2002.12.15 @ 02:03:45

### Tool Information

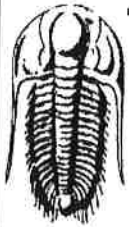
Drill Pipe:	Length: 4183.00 ft	Diameter: 3.80 inches	Volume: 58.68 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 58.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	4188.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.01 ft			
Tool Length:	49.01 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4167.00	
S.I. Tool	5.00			4172.00	
HMV	5.00			4177.00	
Safety Joint	2.00			4179.00	
Packer	4.00			4183.00	22.00 Bottom Of Top Packer
Packer	5.00			4188.00	
Stubb	1.00			4189.00	
Recorder	0.01	3017	Inside	4189.01	
Perforations	3.00			4192.01	
Perforations	20.00			4212.01	
Bullnose	3.00			4215.01	27.01 Bottom Packers & Anchor

**Total Tool Length: 49.01**



**TRILOBITE  
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## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mid Continent Energy Operating co.

**Halgelantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16759

**DST#: 2**

ATTN: G.M.Canaday

Test Start: 2002.12.15 @ 02:03:45

### 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:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 11.16 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud with oil skum	0.140

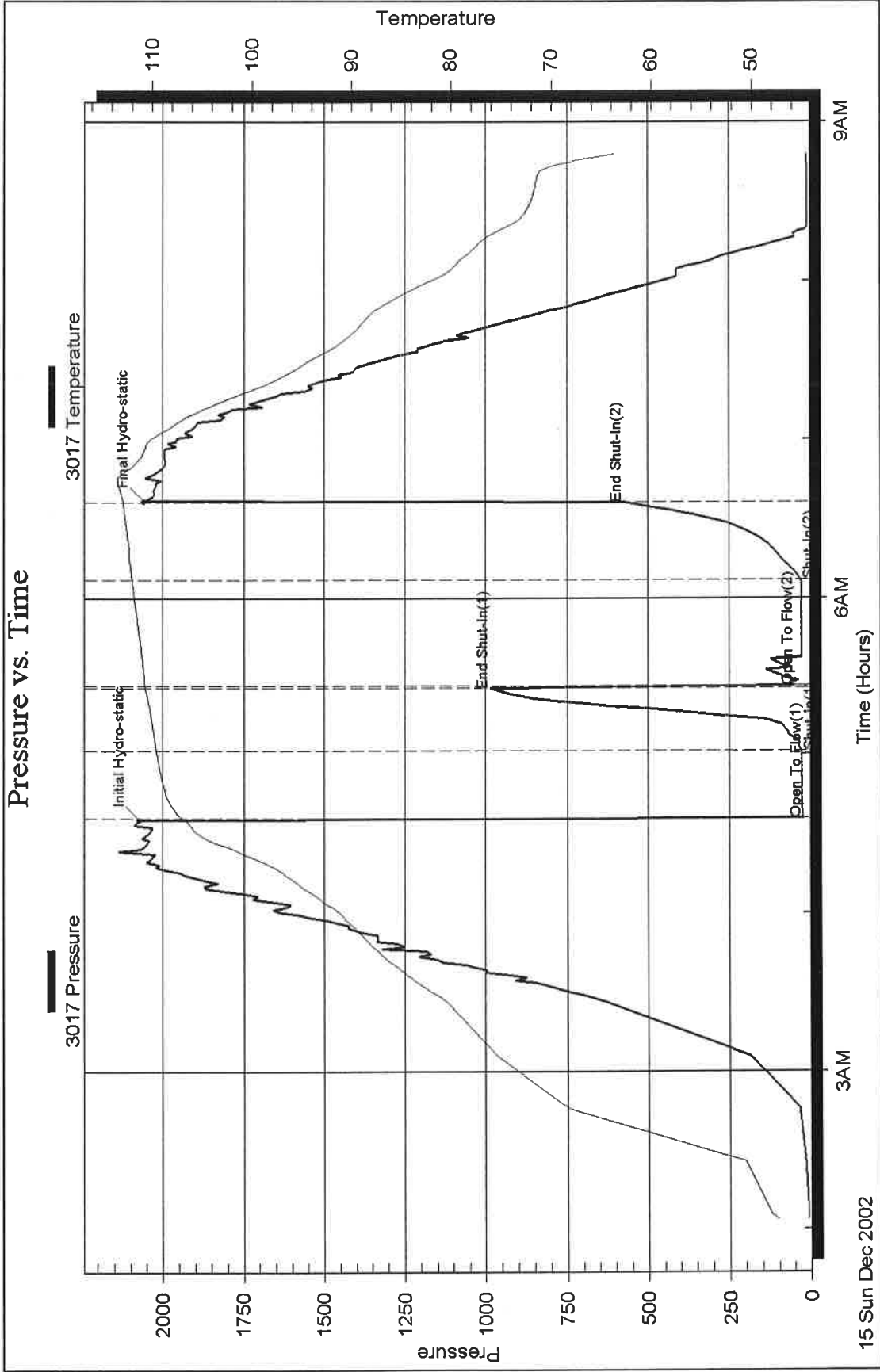
Total Length: 10.00 ft      Total Volume: 0.140 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Mid Continent Energy Operating co.**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

ATTN: G.M.Canaday

**34-17s-21w Ness KS**

**Halgelgantz # 1**

Start Date: 2002.12.15 @ 14:55:17

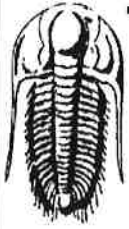
End Date: 2002.12.15 @ 22:04:17

Job Ticket #: 16760                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Mid Continent Energy Operating co.

**Halgelantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16760

**DST#: 3**

ATTN: G.M.Canaday

Test Start: 2002.12.15 @ 14:55:17

## GENERAL INFORMATION:

Formation: **Miss.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:50:17

Time Test Ended: 22:04:17

Test Type: Conventional Bottom Hole

Tester: John Schmid

Unit No: 18

Interval: **4195.00 ft (KB) To 4207.00 ft (KB) (TVD)**

Reference Elevations: 2147.00 ft (KB)

Total Depth: 4207.00 ft (KB) (TVD)

2137.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 3017**

**Inside**

Press@RunDepth: 79.70 psig @ 4196.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2002.12.15

End Date: 2002.12.15

Last Calib.: 2002.12.15

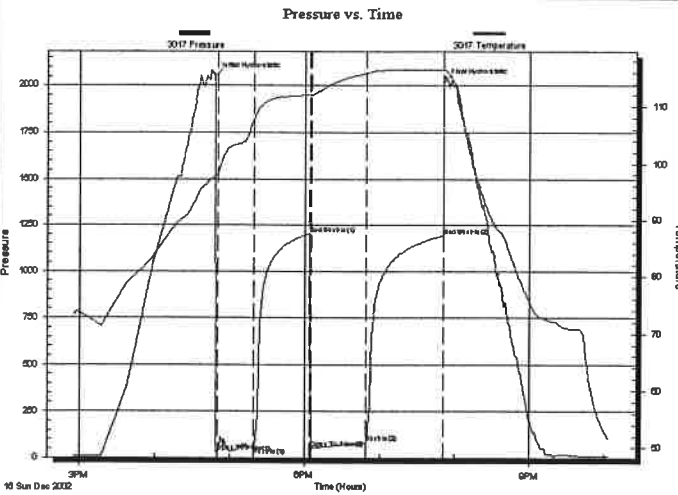
Start Time: 14:55:19

End Time: 22:04:17

Time On Btm: 2002.12.15 @ 16:48:17

Time Off Btm: 2002.12.15 @ 19:51:17

TEST COMMENT: IF-Strong B.O.B. 25 min. IS-no blow  
FF-Strong B.O.B. 20 min. FS-no blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2049.10	97.82	Initial Hydro-static
2	27.57	98.32	Open To Flow (1)
31	59.90	107.70	Shut-In(1)
76	1198.42	112.08	End Shut-In(1)
77	49.94	112.12	Open To Flow (2)
121	79.70	115.86	Shut-In(2)
183	1190.25	116.47	End Shut-In(2)
183	2019.02	116.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	G-M-W-C-oil--10%G--10%M--15%W--65	2.10
390.00	gas in pipe	5.47

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mid Continent Energy Operating co.

**Halgelgantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16760

**DST#: 3**

ATTN: G.M.Canaday

Test Start: 2002.12.15 @ 14:55:17

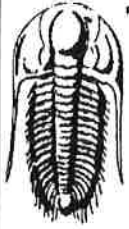
### Tool Information

Drill Pipe:	Length: 4197.00 ft	Diameter: 3.80 inches	Volume: 58.87 bbl	Tool Weight: 2600.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 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: 58.87 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4195.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.02 ft			
Tool Length:	34.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4174.00	
S.I. Tool	5.00			4179.00	
HMV	5.00			4184.00	
Safety Joint	2.00			4186.00	
Packer	4.00			4190.00	22.00 Bottom Of Top Packer
Packer	5.00			4195.00	
Stubb	1.00			4196.00	
Recorder	0.01	3017	Inside	4196.01	
Perforations	8.00			4204.01	
Recorder	0.01	13308	Outside	4204.02	
Bullnose	3.00			4207.02	12.02 Bottom Packers & Anchor

**Total Tool Length: 34.02**



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mid Continent Energy Operating co.

**Halgelantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16760

**DST#: 3**

ATTN: G.M.Canaday

Test Start: 2002.12.15 @ 14:55:17

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 41 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 28000 ppm
Viscosity: 46.00 sec/qt	Cushion Volume: bbl	
Water Loss: 10.38 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: ppm		
Filter Cake: inches		

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	G-M-W-C-oil--10%G--10%M--15%W--65%oil	2.104
390.00	gas in pipe	5.471

Total Length: 540.00 ft      Total Volume: 7.575 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

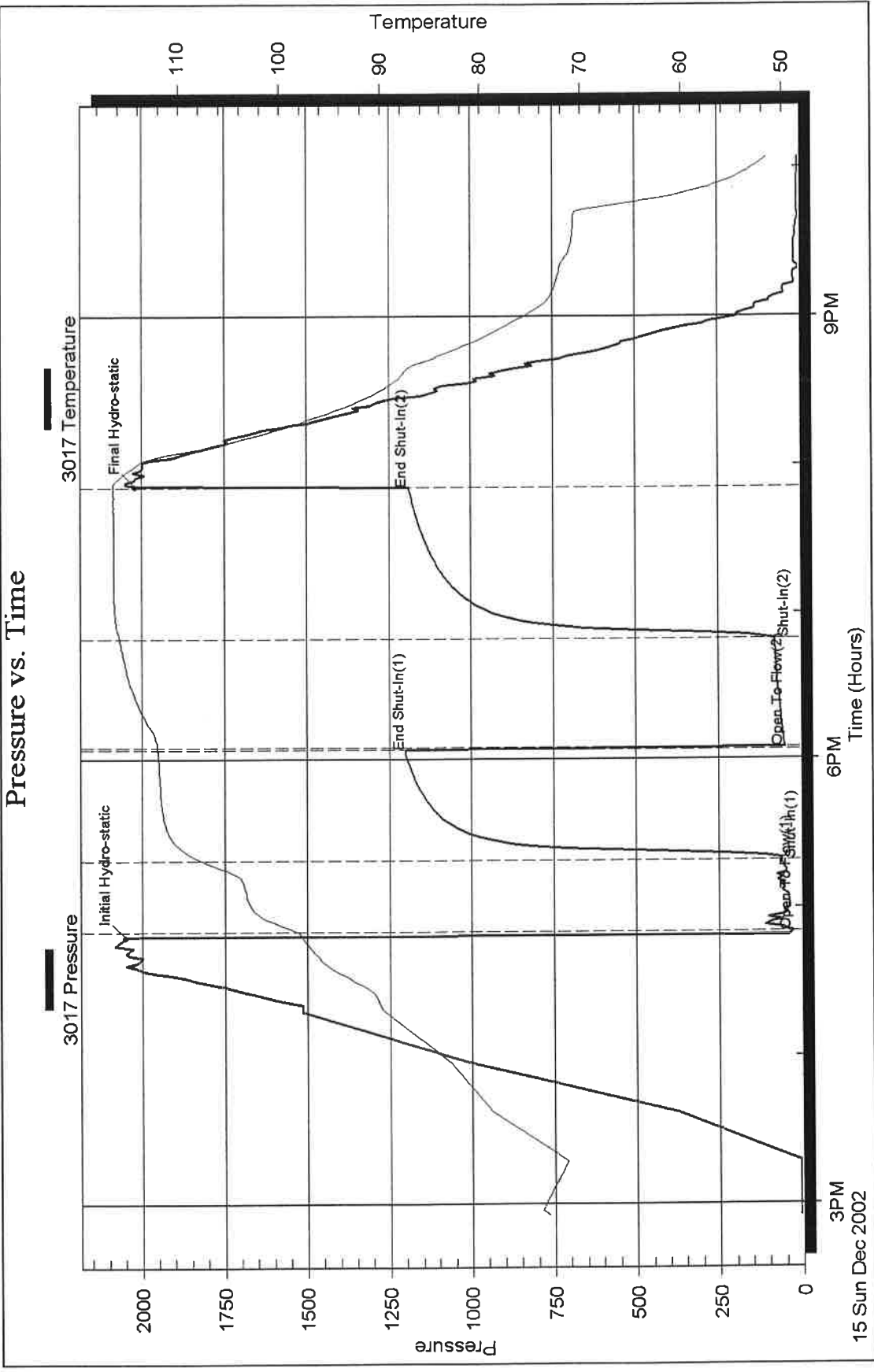
Serial #:

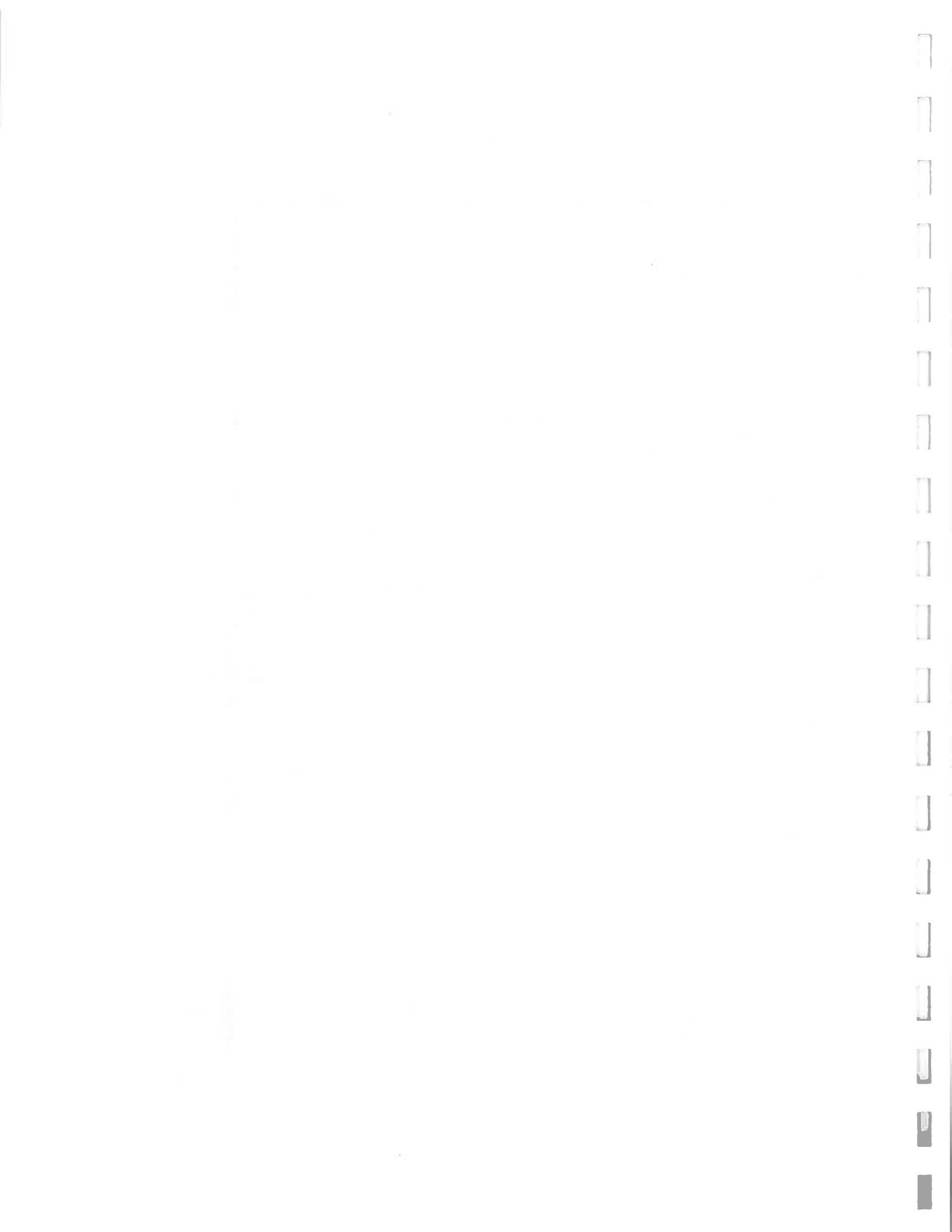
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Mid Continent Energy Operating co.**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

ATTN: G.M.Canaday

**34-17s-21w Ness KS**

**Halgelgantz # 1**

Start Date: 2002.12.16 @ 05:36:31

End Date: 2002.12.16 @ 12:43:31

Job Ticket #: 16761                      DST #: 4

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



**TRILOBITE**  
TESTING, INC.

## DRILL STEM TEST REPORT

Mid Continent Energy Operating co.

**Halgelgantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16761

**DST#: 4**

ATTN: G.M.Canaday

Test Start: 2002.12.16 @ 05:36:31

### GENERAL INFORMATION:

Formation: **Miss.**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:44:31

Time Test Ended: 12:43:31

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: **4207.00 ft (KB) To 4217.00 ft (KB) (TVD)**

Total Depth: 4217.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2147.00 ft (KB)

2137.00 ft (CF)

KB to GR/CF: 10.00 ft

**Serial #: 3017**

**Inside**

Press@RunDepth: 219.47 psig @ 4209.01 ft (KB)

Capacity: 7000.00 psig

Start Date: 2002.12.16

End Date: 2002.12.16

Last Calib.: 2002.12.16

Start Time: 05:36:33

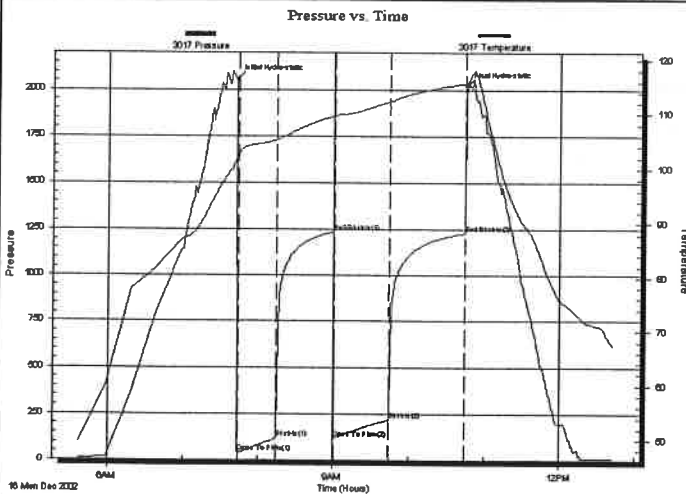
End Time: 12:43:31

Time On Btm: 2002.12.16 @ 07:43:01

Time Off Btm: 2002.12.16 @ 10:45:01

TEST COMMENT: IF-Strong B.O.B.20 min.  
FF-Strong B.O.B.25 min.

ISI-Very weak blow back  
FSI-no blow back



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2056.59	102.17	Initial Hydro-static
2	38.91	102.83	Open To Flow (1)
32	116.15	105.35	Shut-In(1)
77	1235.80	109.73	End Shut-In(1)
78	119.16	109.78	Open To Flow (2)
122	219.47	112.32	Shut-In(2)
182	1230.09	115.67	End Shut-In(2)
182	2018.14	115.68	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
430.00	Salt Water	6.03
1.00	free oil	0.01
60.00	gas in pipe	0.84

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mid Continent Energy Operating co.

**Halgelantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16761

**DST#: 4**

ATTN: G.M.Canaday

Test Start: 2002.12.16 @ 05:36:31

### Tool Information

Drill Pipe:	Length: 4195.00 ft	Diameter: 3.80 inches	Volume: 58.84 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 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: 65000.00 lb
		<u>Total Volume:</u>	<u>58.84 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4207.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.01 ft			
Tool Length:	32.01 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

C.O. Sub	1.00			4186.00	
S.I. Tool	5.00			4191.00	
HMV	5.00			4196.00	
Safety Joint	2.00			4198.00	
Packer	4.00			4202.00	22.00 Bottom Of Top Packer
Packer	5.00			4207.00	
Stubb	1.00			4208.00	
Perforations	1.00			4209.00	
Recorder	0.01	3017	Inside	4209.01	
Perforations	5.00			4214.01	
Bullnose	3.00			4217.01	10.01 Bottom Packers & Anchor

**Total Tool Length: 32.01**



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mid Continent Energy Operating co.

**Halgelgantz # 1**

100 W.5 St, Ste. 450  
Tulsa, OK 74103

**34-17s-21w Ness KS**

Job Ticket: 16761

**DST#: 4**

ATTN: G.M.Canaday

Test Start: 2002.12.16 @ 05:36:31

### 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:

50000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 10.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
430.00	Salt Water	6.032
1.00	free oil	0.014
60.00	gas in pipe	0.842

Total Length: 491.00 ft      Total Volume: 6.888 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



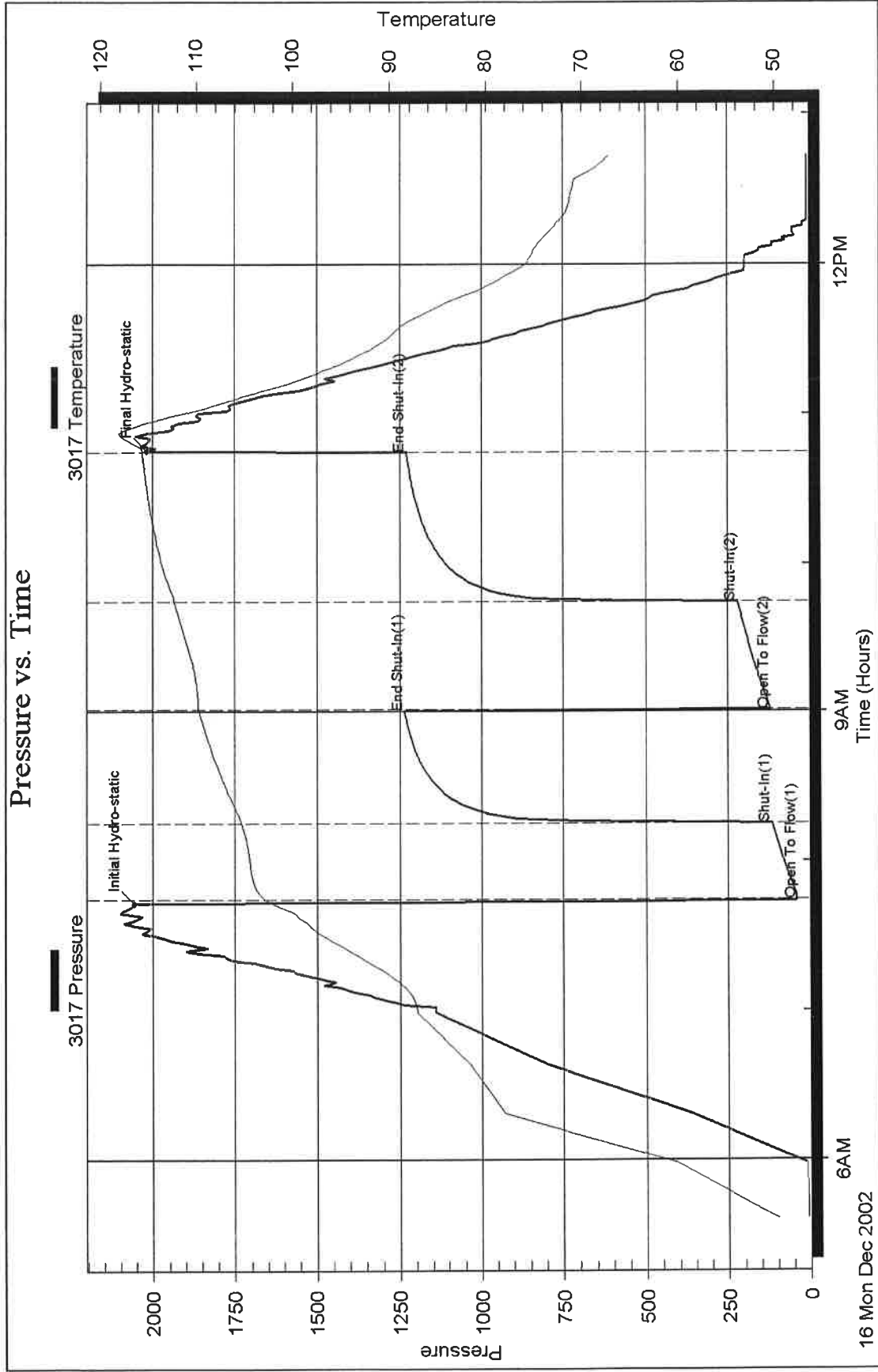
Serial #: 3017

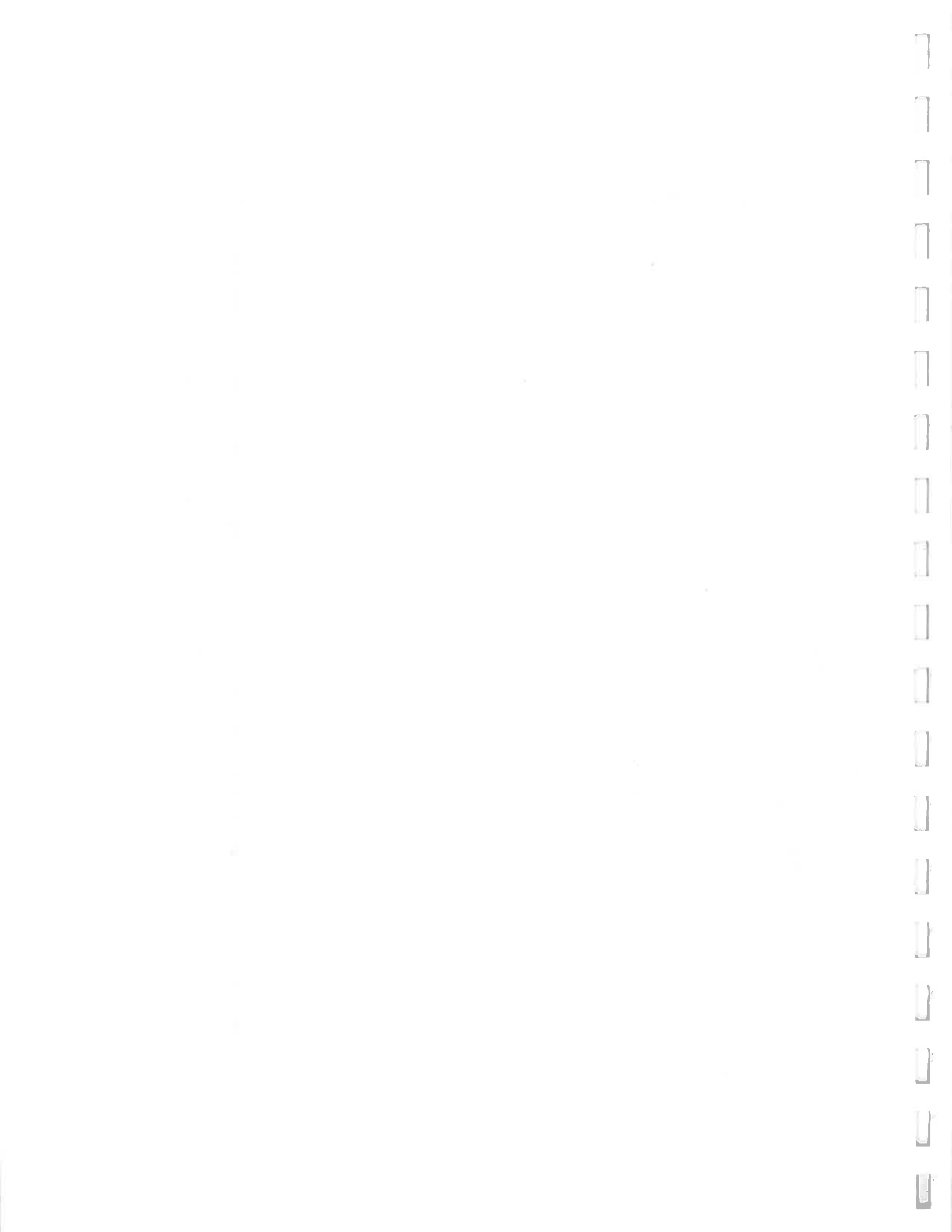
Inside

Md Continent Energy Operating co.

34-17s-21w Ness KS

DST Test Number: 4





**ALLIED CEMENTING CO., INC.**

P.O. BOX 31  
RUSSELL, KS 67665  
PH (785) 483-3887  
FAX (785) 483-5566  
FEDERAL TAX ID# 48-0727860

\*\*\*\*\*  
\*  
\* I N V O I C E \*  
\*  
\*\*\*\*\*

Invoice Number: 088716

Invoice Date: 12/13/02

Sold Mid-Continent Energy  
To: Operating Co.  
100 W. 5th ST, #450  
Tulsa, OK  
74103

RECEIVED DEC 20 2002

ALL 300

Cust I.D.....: MidOpe  
P.O. Number...: Hagledantz #1  
P.O. Date.....: 12/13/02

Due Date.: 01/12/03  
Terms.....: Net 30

Item I.D./Desc.	Qty. Used	Unit	Price	Net	TX
Common	114.00	SKS	6.6500	758.10	E
Pozmix	76.00	SKS	3.5500	269.80	E
Gel	4.00	SKS	10.0000	40.00	E
Chloride	6.00	SKS	30.0000	180.00	E
Handling	200.00	SKS	1.1000	220.00	E
Mileage (21)	21.00	MILE	8.0000	168.00	E
200 sks @\$ .04 per sk per mi					
Surface	1.00	JOB	520.0000	520.00	E
Extra Footage	28.00	PER	0.5000	14.00	E
Mileage pmp trk	21.00	MILE	3.0000	63.00	E
Plug	1.00	EACH	45.0000	45.00	E

All Prices Are Net, Payable 30 Days Following Subtotal: 2277.90  
Date of Invoice. 1 1/2% Charged Thereafter. Tax.....: 0.00  
If Account CURRENT take Discount of \$ 227.79 Payments: 0.00  
ONLY if paid within 30 days from Invoice Date Total....: 2277.90

CO. # 5  
LSE # 253300  
ACCT # 102  
APPROVED  
SCP  
LOE

ENTERED DEC 30 2002

PAID JAN 08 2003

# ALLIED CEMENTING CO., INC.

7859

Federal Tax I.D.# 48-0727860

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

SERVICE POINT:

Abenocty

DATE <u>12-20-02</u>	SEC. <u>34</u>	TWP. <u>17</u>	RANGE <u>21</u>	CALLED OUT <u>12:00am</u>	ON LOCATION <u>1:00am</u>	JOB START <u>7:20am</u>	JOB FINISH <u>8:00am</u>
<u>Wagler on top</u>	WELL # <u>1</u>	LOCATION <u>Bogine 4 E. 5 N 1/4 W 1/4 N</u>				COUNTY <u>Abeno</u>	STATE <u>KS</u>
OLD OR NEW (Circle one) <u>NEW</u>							

CONTRACTOR Duke Donly #4 OWNER \_\_\_\_\_

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 328

CASING SIZE 8 5/8 DEPTH 328

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. 15'

PERFS. \_\_\_\_\_

DISPLACEMENT 20 1/4 BBL.

CEMENT

AMOUNT ORDERED

190 @ 9/16 3% cc 2" Hoel

COMMON 114 @ 6.65 758.10

POZMIX 76 @ 3.55 269.80

GEL 4 @ 10.00 40.00

CHLORIDE 6 @ 30.00 180.00

EQUIPMENT

PUMP TRUCK CEMENTER Lillyshaw

# 224 HELPER \_\_\_\_\_

BULK TRUCK DRIVER Lennie

# 341 DRIVER \_\_\_\_\_

BULK TRUCK DRIVER \_\_\_\_\_

# \_\_\_\_\_ DRIVER \_\_\_\_\_

HANDLING 200 @ 1.10 220.00

MILEAGE 21,200.4 @ \_\_\_\_\_ 168.00

TOTAL 1635.90

REMARKS:

circ 8 5/8 cas w/ long pump,  
max 1900x cement 1000 plus,  
w/ BBL 20/4 Plus Bogin  
8 AM Cemented Circ.

SERVICE

DEPTH OF JOB 328

PUMP TRUCK CHARGE \_\_\_\_\_ @ \_\_\_\_\_ 50.00

EXTRA FOOTAGE 28 @ 50 14.00

MILEAGE 21 @ 3.00 63.00

PLUG 2 cup used @ 45.00 45.00

TOTAL 642.00

CHARGE TO: Med-Cent Energy Oper Co.

STREET 100 West 5th street, Suite 450

CITY Tulsa STATE OKL. ZIP 74103

FLOAT EQUIPMENT

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

To Allied Cementing Co., Inc.

You are hereby requested to rent cementing equipment and furnish cementer and helper 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 & understand the "TERMS AND CONDITIONS" listed on the reverse side.

TOTAL

TAX 0

TOTAL CHARGE 2277.90

DISCOUNT 227.79 IF PAID IN 30 DAYS

SIGNATURE Gabe D. Roub

PRINTED NAME \_\_\_\_\_

**ALLIED CEMENTING CO., INC.**

P.O. BOX 31  
RUSSELL, KS 67665  
PH (785) 483-3887  
FAX (785) 483-5566  
FEDERAL TAX ID# 48-0727860

\*\*\*\*\*  
\* I N V O I C E \*  
\*\*\*\*\*

Invoice Number: 088829

Invoice Date: 12/26/02

**RECEIVED DEC 30 2002**

Sold Mid-Continent Energy

To: Operating Co.  
100 W. 5th ST, #450  
Tulsa, OK  
74103

ALL300

Cust I.D.....: MidOpe  
P.O. Number...: Hagelgant21-34  
P.O. Date.....: 12/26/02

Due Date.: 01/25/03  
Terms.....: Net 30

Item I.D./Desc.	Qty. Used	Unit	Price	Net	TX
Common	123.00	SKS	6.6500	817.95	E
Pozmix	82.00	SKS	3.5500	291.10	E
Gel	9.00	SKS	10.0000	90.00	E
FloSeal	51.00	LBS	1.4000	71.40	E
Handling	216.00	SKS	1.1000	237.60	E
Mileage (21)	21.00	MILE	8.6400	181.44	E
216 sks @\$ .04 per sk per mi					
Rotary Plug	1.00	JOB	520.0000	520.00	E
Mileage pmp trk	21.00	MILE	3.0000	63.00	E
Plug	1.00	EACH	23.0000	23.00	E
				Subtotal:	2295.49
				Tax.....:	0.00
				Payments:	0.00
				Total.....:	2295.49

**PAID JAN 15 2003**

All Prices Are Net, Payable 30 Days Following  
Date of Invoice. 1 1/2% Charged Thereafter.  
If Account CURRENT take Discount of \$ 229.55  
ONLY if paid within 30 days from Invoice Date

CO. # 5  
LSE # 253300  
ACCT # 102  
APPROVED  
ECP ACP LOE

**ENTERED DEC 31 2002**

# ALLIED CEMENTING CO., INC.

Federal Tax I.D.# 48-0727860

13221

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

SERVICE POINT:

GREAT BEND

DATE <u>12-17-02</u>	SEC. <u>34</u>	TWP. <u>17s</u>	RANGE <u>21w2</u>	CALLED OUT <u>5:00 PM</u>	ON LOCATION <u>8:00 AM</u>	JOB START <u>8:45 AM</u>	JOB FINISH <u>10:30 AM</u>
LEASE # <u>HA6EL9A072</u>	WELL # <u>1-34</u>	LOCATION <u>BAZINE NE SW 1/4 12 N</u>	OWNER <u>Mid-Continent Energy</u>	COUNTY <u>NESS</u> STATE <u>KS.</u>			

OLD OR NEW (Circle one)

CONTRACTOR Duke Dale Rig #4

TYPE OF JOB Rotary Core

HOLE SIZE 7 7/8" T.D. 4300'

CASING SIZE 8 5/8" DEPTH 328'

TUBING SIZE DEPTH

DRILL PIPE 4 1/2" DEPTH 1440'

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT

OWNER Mid-Continent Energy

CEMENT

AMOUNT ORDERED 205 M 60/40 for 6 bbl 1/4" flo seal sl

USED ALL MATERIAL

COMMON	<u>123 M</u>	@	<u>6.65</u>	<u>817.95</u>
POZMIX	<u>82 M</u>	@	<u>3.55</u>	<u>291.10</u>
GEL	<u>9 M</u>	@	<u>10.00</u>	<u>90.00</u>
CHLORIDE		@		
<u>FLO-SEAL 51 #</u>		@	<u>1.40</u>	<u>71.40</u>
		@		
		@		
		@		
HANDLING	<u>316</u>	@	<u>1.10</u>	<u>237.60</u>
MILEAGE	<u>21</u>	@		<u>181.44</u>

TOTAL 1689.49

EQUIPMENT

PUMP TRUCK CEMENTER BUD

# 181 HELPER Buck

BULK TRUCK

# 342 DRIVER Tim

BULK TRUCK DRIVER

REMARKS:

1st Plug 1440' Core. Here Mix 50% 60/40 for 6 bbl 1/4" flo seal 1/4" FS. 1 DENIED R DAWGGE 2ND PLUG 730' Mix 80% 60/40 for 2 bbl 1/4" FS. 3rd PLUG 360' Mix 50% 60/40 for 6 bbl 1/4" FS. DAWGGE to DAWGGE TOP PLUG HO' MINE DRIVE, Mix 100% 60/40 for 6 bbl 1/4" FS. PLUG out here 15% to 100 for 6 bbl 1/4" FS.

SERVICE

DEPTH OF JOB	<u>1440'</u>		
PUMP TRUCK CHARGE			<u>520.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>21</u>	@	<u>3.00</u>
PLUG	<u>1-856" Dry here</u>	@	<u>23.00</u>
		@	
		@	

TOTAL 606.00

CHARGE TO: Mid-Continent Energy

STREET 100 W. SH. G. SUITE 450

CITY TULSA STATE OKLA ZIP 74103

FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	

To Allied Cementing Co., Inc.

You are hereby requested to rent cementing equipment and furnish cementer and helper 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 & understand the "TERMS AND CONDITIONS" listed on the reverse side.

TOTAL

TAX \_\_\_\_\_

TOTAL CHARGE \$ 2295.49

DISCOUNT 229.55 IF PAID IN 30 DAYS

Net 2065.94

SIGNATURE Gale D. Rouch PRINTED NAME \_\_\_\_\_