

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form must be Typed
Form must be signed

TEMPORARY ABANDONMENT WELL APPLICATION

All blanks must be complete

OPERATOR: License#
Name:
Address 1:
Address 2:
City: State: Zip:
Contact Person:
Phone:
Contact Person Email:
Field Contact Person:
Field Contact Person Phone:

API No. 15-
Spot Description:
Sec. Twp. S. R.
feet from N / S Line of Section
feet from E / W Line of Section
GPS Location: Lat: , Long:
Datum: NAD27 NAD83 WGS84
County: Elevation: GL KB
Lease Name: Well #:
Well Type: (check one) Oil Gas OG WSW Other:
SWD Permit #: ENHR Permit #:
Gas Storage Permit #:
Spud Date: Date Shut-In:

Table with 7 columns: Conductor, Surface, Production, Intermediate, Liner, Tubing. Rows include Size, Setting Depth, Amount of Cement, Top of Cement, Bottom of Cement.

Casing Fluid Level from Surface: How Determined? Date:
Casing Squeeze(s): to w / sacks of cement, to w / sacks of cement. Date:
Do you have a valid Oil & Gas Lease? Yes No
Depth and Type: Junk in Hole at Tools in Hole at Casing Leaks: Yes No Depth of casing leak(s):
Type Completion: ALT. I ALT. II Depth of: DV Tool: w / sacks of cement Port Collar: w / sack of cement
Packer Type: Size: Inch Set at: Feet
Total Depth: Plug Back Depth: Plug Back Method:

Geological Data:

Table with 4 columns: Formation Name, Formation Top, Formation Base, Completion Information. Rows 1 and 2.

UNDER PENALTY OF PERJURY I HEREBY ATTEST THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

Submitted Electronically

Do NOT Write in This Space - KCC USE ONLY
Date Tested: Results: Date Plugged: Date Repaired: Date Put Back in Service:
Review Completed by: Comments:
TA Approved: Yes Denied Date:

Mail to the Appropriate KCC Conservation Office:

Table with 3 columns: District Office #, Address, Phone. Rows 1-4.

Well Name: Michaelis #1  
Company: Arrowhead Exploration  
Test Date: Dec 08, 2020

Formation: Lansing-KC  
Location: Barton County

## Fluid Level and Well Analysis Report

Michaelis #1

Arrowhead Exploration

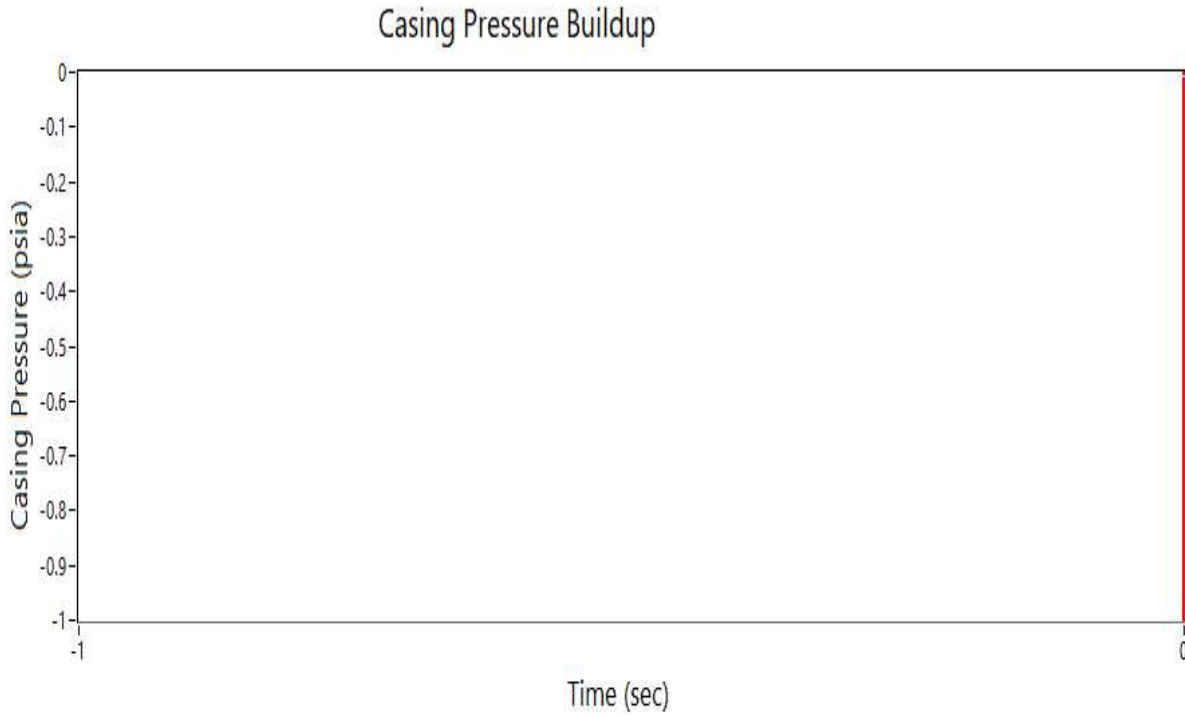
Lansing-KC

Barton County

Dec 08, 2020

Well Name: Michaelis #1  
Company: Arrowhead Exploration  
Test Date: Dec 08, 2020

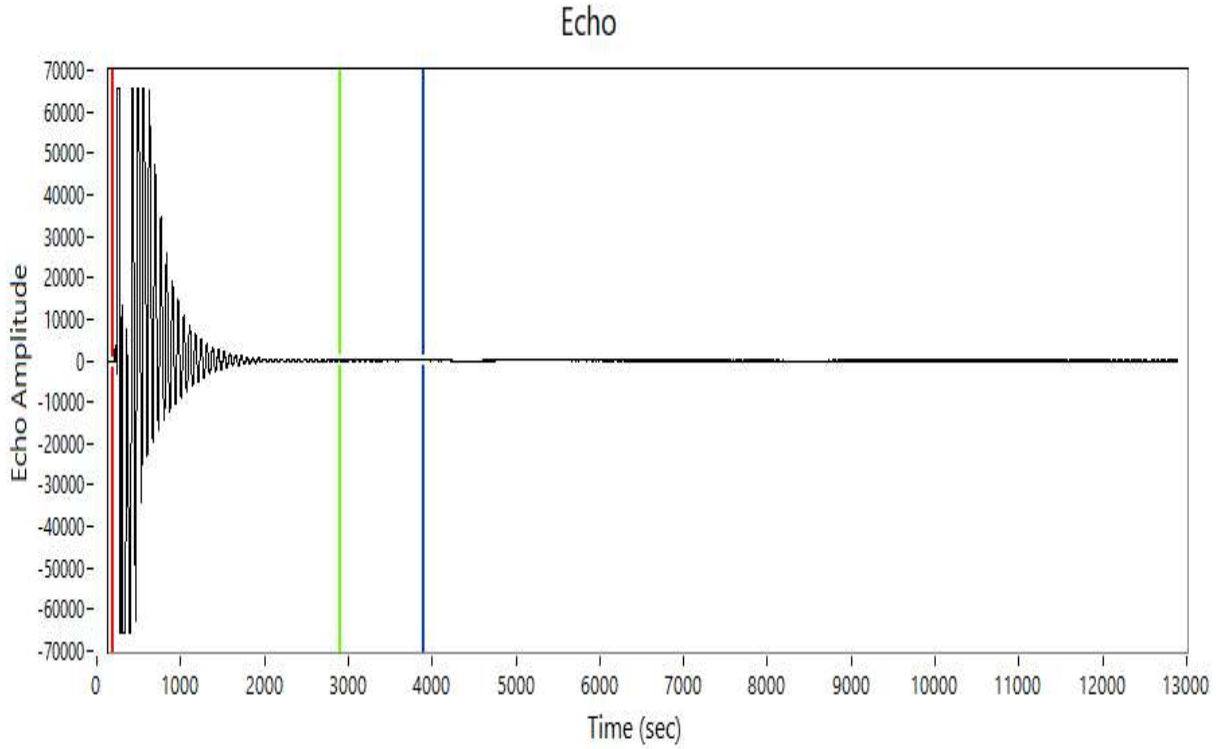
Formation: Lansing-KC  
Location: Barton County



Initial Time:	0 Minutes 0 Seconds	Initial Casing Pressure:	0 psia
Final Time:	0 Minutes 0 Seconds	Final Casing Pressure:	0 psia
Casing Size:	4.50 in	Fluid Level:	1674.00 ft
Casing Weight:	13.50 lb/ft	Gas Rate:	0.00 mcf/day
Tubing Size:	2.37 in		
Perforation Temp:	124.00 Deg F		
SpG Gas:	0.80		

Well Name: Michaelis #1  
Company: Arrowhead Exploration  
Test Date: Dec 08, 2020

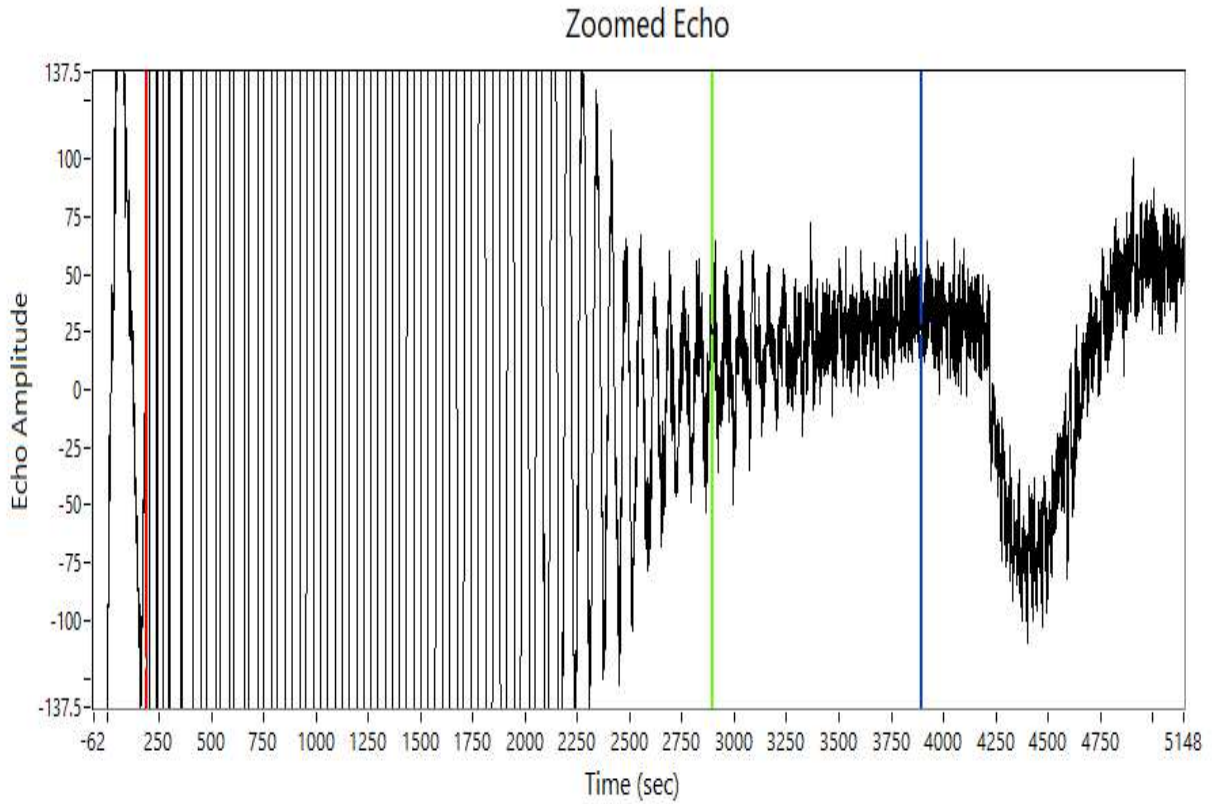
Formation: Lansing-KC  
Location: Barton County



Depth: 1674.00 ft  
Return Time: 3.71 sec  
Acoustic Velocity: 902.43 ft/s  
Average Joint Length: 31.00 ft  
Number of Joints: 54.00

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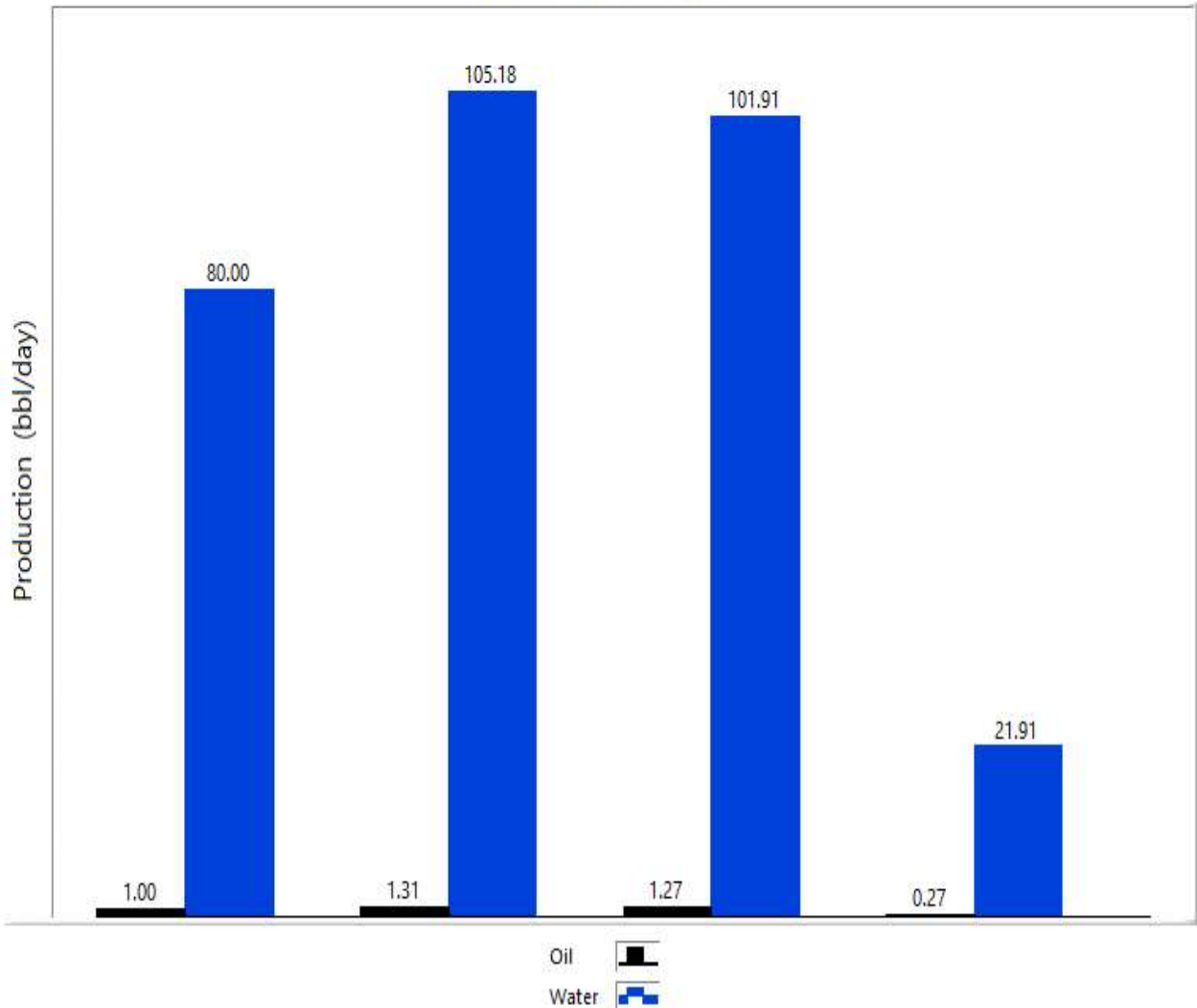


Depth:	1674.00 ft
Return Time:	3.71 sec
Acoustic Velocity:	902.43 ft/s
Average Joint Length:	31.00 ft
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Well Name: Michaelis #1  
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Production Potential



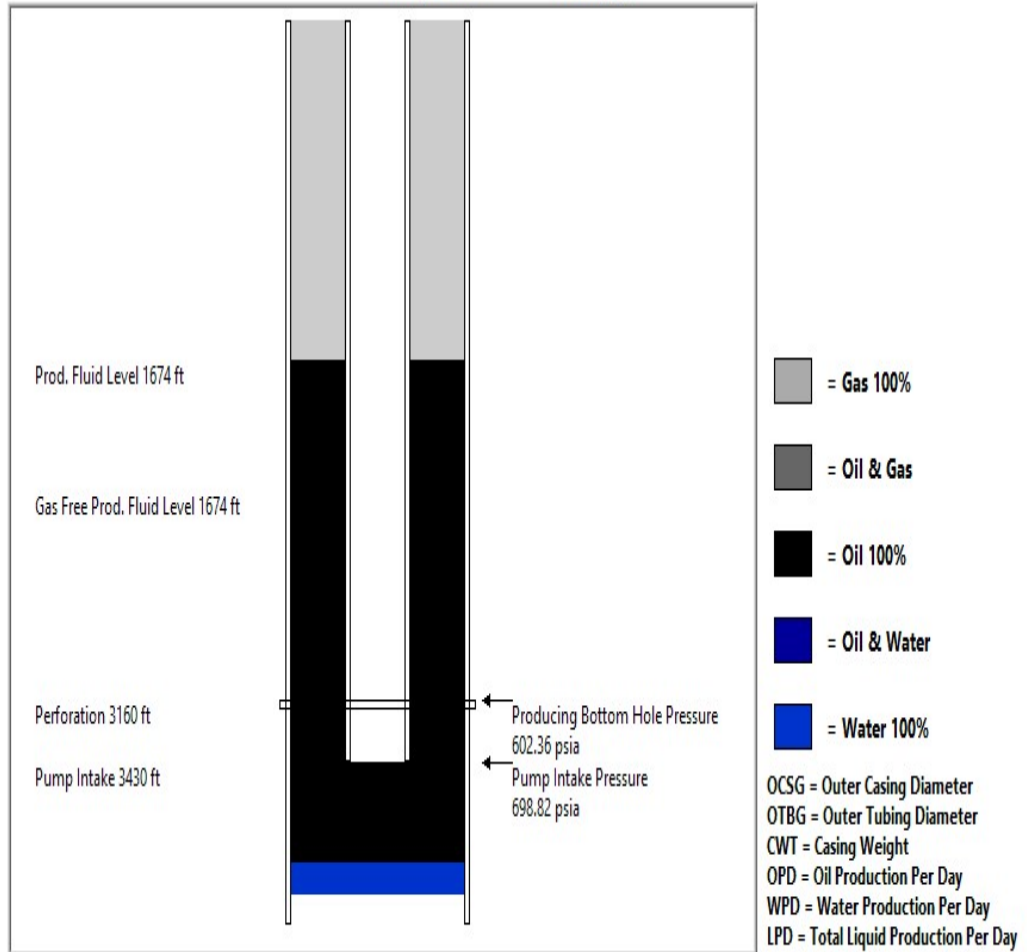
	Current	Maximum	Potential @ 150 psig	Increase
Oil	1.00 (bbl/day)	1.31 (bbl/day)	1.27 (bbl/day)	0.27 (bbl/day)
Water	80.00 (bbl/day)	105.18 (bbl/day)	101.91 (bbl/day)	21.91 (bbl/day)
Gas	0.00 (mcf/day)	0.00 (mcf/day)	0.00 (mcf/day)	0.00 (mcf/day)

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**Well Detailed Overview**

API of Oil:	40.00	Gas Production:	0.00 mcf/day
SpG of Water:	1.05	Oil Production:	1.00 bbl/day
SpG to Air of Gas:	0.80	Water Production:	80.00 bbl/day
		Casing Pressure:	55.00 psia



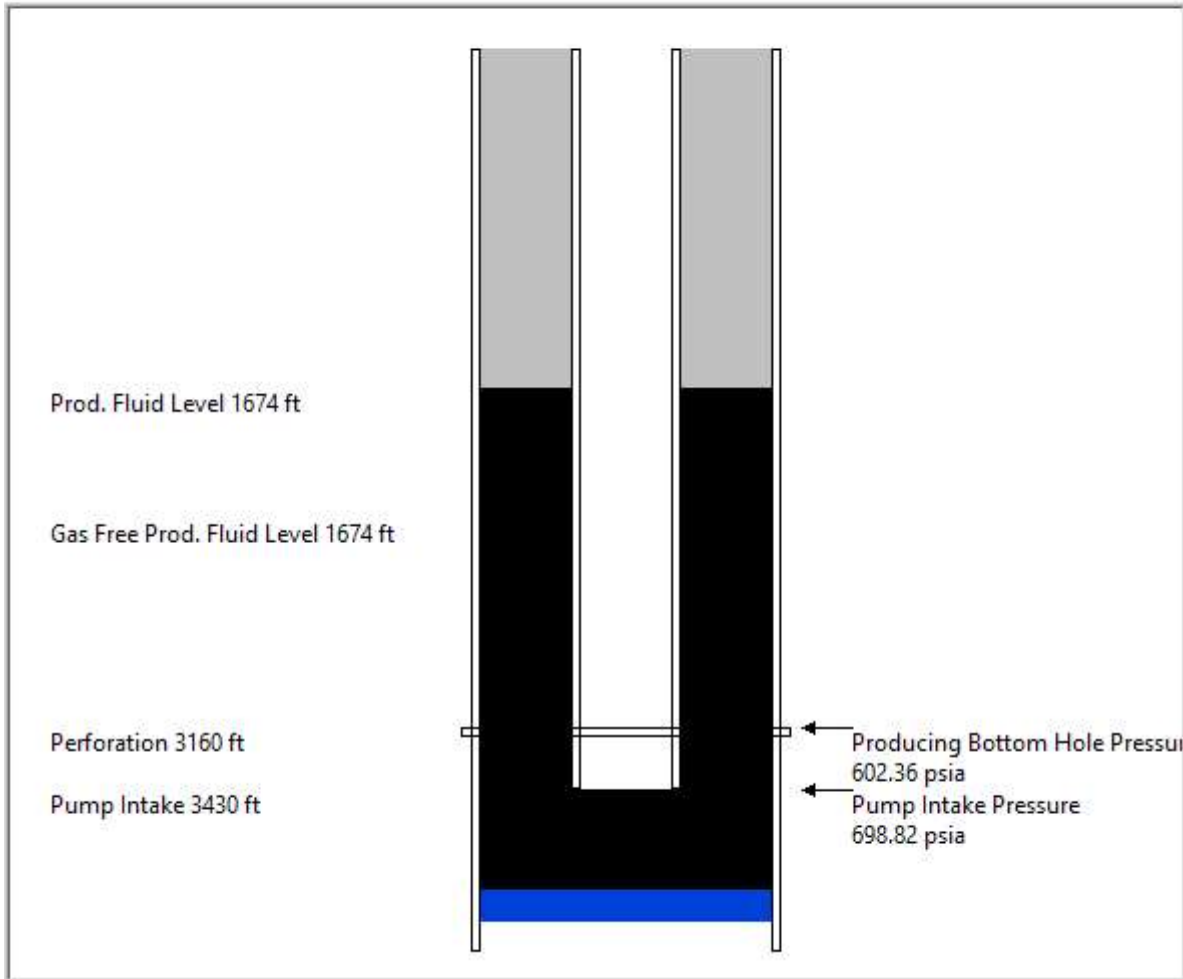
Entered Values				Calculated Results			
API of Oil	Pump Intake Depth	OPD	OCSG	Fluid Level	Max OPD	OPD	
40.00	3430.00 (ft)	1.00 (bbl/day)	4.500 (in)	1674.00 (ft)	1.31 (bbl/day) @ 0 psia	1.27 (bbl/day) @ 150 psia	
SpG of Water	Perforation Depth	WPD	CWT	Gas Free Fluid Level	Max WPD	WPD	
1.05	3160.00 (ft)	80.00 (bbl/day)	13.50 (lb/ft)	1674.00 (ft)	105.18 (bbl/day) @ 0 psia	101.91 (bbl/day) @ 150 psia	
SpG to Air of Gas	Perforation Temp	Calculation Pressure	OTBG	Bottomhole Pressure	Max LPD	LPD	
0.80	124.00 (Deg F)	150.00 (psia)	2.375 (in)	602.36 (psia)	106.50 (bbl/day) @ 0 psia	103.18 (bbl/day) @ 150 psia	
Surface Pressure (psig)	Reservoir Pressure	Gas Production (mcf/day)		Pump Intake Pressure	Max Gas Production	Gas Production	
55.00	1381.00 (psia)	0.00		698.82 (psia)	0.00 (mcf/day) @ 0 psia	0.00 (mcf/day) @ 150 psia	

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### Well Diagram

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SpG to Air of Gas:	0.80	Water Production:	80.00 bbl/day
		Casing Pressure:	55.00 psia





Conservation Division  
District Office No. 4  
2301 E. 13th Street  
Hays, KS 67601-2651



Phone: 785-261-6250  
Fax: 785-625-0564  
<http://kcc.ks.gov/>

Andrew J. French, Chairperson  
Dwight D. Keen, Commissioner  
Susan K. Duffy, Commissioner

Laura Kelly, Governor

February 10, 2021

Matt Morris  
Arrowhead Exploration, LLC  
2919 HALL ST.  
HAYS, KS 67601-1818

Re: Temporary Abandonment  
API 15-009-21389-00-00  
MICHAELIS 1  
NW/4 Sec.02-16S-15W  
Barton County, Kansas

Dear Matt Morris:

"Your temporary abandonment (TA) application for the well listed above has been approved. In accordance with K.A.R. 82-3-111 the TA status of this well will expire 02/10/2022.

- \* If you return this well to service or plug it, please notify the District Office.
- \* If you sell this well you are required to file a Transfer of Operator form, T-1.
- \* If the well will remain temporarily abandoned, you must submit a new TA application, CP-111, before 02/10/2022.

You may contact me at the number above if you have questions.

Very truly yours,

RICHARD WILLIAMS"