

# Laboratory Analysis Report



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Report To: Blake Voss  
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Submitted By: Adkins Energy, Llc  
 4350 W Galena Rd  
 Lena IL 61048

cc: Jamie Kent

Sample ID: K00066227                      Type of Sample: ETHANOL / Ethanol Quarterly Oversight  
 Sample Date: 07/05/2016                Sample Point: na  
 Sample Description:  
 Additional Comments:  
 Sample Notes:  
 Origin Release Number:  
 \*Tests performed meet Magellan specifications.

Method	Results	Specification	
		Min	Max
<b>K00066227001</b>	<b>E Grade                      Ethanol Qtly Oversight</b>		
<b>D 5501</b>	<b>Ethanol Purity</b>		
	96.68 Vol. % Ethanol	93.5	
	0.05 Vol. % Methanol		0.5
<b>E 1064</b>	<b>Water in Ethanol by Coulometric Karl Fischer</b>		
	0.92 % v/v Water		1.0
<b>D 1688</b>	<b>Determination of Copper</b>		
	<0.05 mg/L Copper		0.08
	<0.05 mg/kg Copper mg/kg		0.1
<b>D 381</b>	<b>D 381 Existent Gum</b>		
	2.4 mg/100mL Unwashed Gum		
	<0.5 mg/100mL Washed Gum		5.0
<b>D 5453</b>	<b>Total Sulfur by Ultraviolet Fluorescence</b>		
	<1 ppm w/w Sulfur		10
<b>D 7319</b>	<b>Potential Sulfate in Ethanol by Ion Chromatography</b>		
	<0.5 ppm w/w Potential Sulfate		4
<b>D 4052</b>	<b>Digital Density Meter</b>		
	0.7949 Relative Density 60/60°F		
	0.7946 Density 15/15°C		

Method	Results	Specification	
		Min	Max
D 4176	<b>Free Water and Particulate Contamination</b>		
	Pass Free Water		
	Pass Particulate		
D 6423	<b>Determination of pHe of Ethanol</b>		
	7.62 pHe	6.5	9.0
D 7795	<b>Acidity of Ethanols</b>		
	15.5 mg/kg Total Acidity		70
D 7319	<b>Chloride and Existent Sulfate by Ion Chromatography</b>		
	<1.0 ppm w/w Total Sulfate		4
	<1.0 mg/L Chloride by Ion Chromatography		5
	<1.0 mg/kg chloride		6.7



Jonathan Hurlbert