



# Central Plains Cement Company

## Cement Mill Test Report

Month of Issue: October 2018

<b>Plant:</b>	Tulsa, OK
<b>Product:</b>	Class H
<b>Silos:</b>	2, 8
<b>Manufactured:</b>	September 2018
<b>Lot Number:</b>	1809H

CHEMICAL ANALYSIS			PHYSICAL ANALYSIS		
Item	Spec Limit	Test Result	Item	Spec Limit	Test Result
Rapid Method, X-Ray (ASTM C114)					
SiO <sub>2</sub> (%)	---	21.5	Blaine Fineness (m <sup>2</sup> /kg) (C 204)	---	274
Al <sub>2</sub> O <sub>3</sub> (%)	---	3.3	Free Fluid Content (%)	5.9 max	5.0
Fe <sub>2</sub> O <sub>3</sub> (%)	---	5.6	Compressive strength (PSI)		
CaO (%)	---	62.8	8 hr 100F	300 min	450
MgO (%)	6.0 max	1.7	8 h 140F	1500 min	1890
SO <sub>3</sub> (%)	3.0 max	2.4	Thickening Time (minutes)		
Loss on ignition (%)	3.0 max	0.8	API Schedule 5: mins to 100bc	90 min - 120 max	112
NaEq (%)	0.75 max	0.40			
Insoluble Residue	0.75 max	0.31			
Free Lime		0.7			
C <sub>3</sub> S (%)	48 min-65 max	55			
C <sub>3</sub> A (%)	3 max	0			
C <sub>4</sub> AF + 2*C <sub>3</sub> A	24 max	15			

We hereby certify that at the time of production this Class H cement tests as shown using applicable API standard or reference test procedures.

Certified By:

John Tierney

October 11, 2018

**Central Plains Cement Co. LLC - Tulsa Plant**

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