

Table 1 – ASTM C150 Test Results for South Texas Cement January Type V

Chemical Analysis**	Results	ASTM C150/AASHTO M85 Type V Specifications
Silicon Dioxide (SiO ₂)	19.6	----
Aluminum Oxide (Al ₂ O ₃)	4.1	----
Iron Oxide (Fe ₂ O ₃)	4.21	----
Calcium Oxide (CaO)	64.9	----
Magnesium Oxide (MgO)	1.3	6.0 % max
Sodium Oxide (Na ₂ O)	0.18	----
Potassium Oxide (K ₂ O)	0.51	----
Equivalent Alkalies (Na ₂ O+0.658 K ₂ O)	0.52	0.60 % max ^t
Titanium Dioxide (TiO ₂)	0.25	----
Manganic Oxide (Mn ₂ O ₃)	0.076	----
Sulfur Trioxide (SO ₃)	1.75	2.3 % max
Loss on Ignition	1.55	3.0 % max
Insoluble Residue	0.47	1.50 % max
Tricalcium Silicate (C ₃ S)	76	----
Tricalcium Aluminate (C ₃ A)	4	5 max
Dicalcium Silicate (C ₂ S)	-1	----
Tetracalcium Aluminoferrite (C ₄ AF)	13	----
Tetracalcium Aluminoferrite (C ₄ AF+2(C ₃ A))	20	25 max
Physical Analysis	Results	ASTM C150/AASHTO M85 Type V Specifications
ASTM C1437 - Flow	139	----
ASTM C109 - Compressive Strength (psi)		
1 Day: 2/19/20	Test Average	2,040
3 Days: 2/21/20	Test Average	3,440
7 Days: 2/25/20	Test Average	4,550
28 Days: 3/17/20	Test Average	5,990
ASTM C191 - Time of setting (Vicat test), min	Initial set	113
	Final set	200
ASTM C187 - Normal Consistency (%)	26.2	----
ASTM C204 - Fineness (Air permeability test) m ² /kg	376	260 min
ASTM C151 - Autoclave Expansion (%)	0.00	0.80 max
ASTM C185 - Air content of mortar (%)	9	12 % max
ASTM 451 - False set (%)	100	50 min

^tIt is permissible to exceed the values in the table for SO₃ content, provided it has been demonstrated by Test Method C1038 that the cement with the increased SO₃ will not develop expansion exceeding 0.020 % at 14 days.

** No adjustment has been made for possible use of limestone or inorganic processing additions.