

## GENERAL REPORT

TO:	<u>Gulf States Materials</u>	Date:	<u>4/24/2015</u>
	<u>555 Sens Road</u>	Report No.	<u>15-C-0155-0001</u> <span style="float: right;">Page 1 of 3</span>
	<u>P.O. Box 1425</u>	Project	<u>Miscellaneous Materials Testing</u>
	<u>La Porte, Texas 77572-1425</u>		<u>Untreated Base</u>
ATTN:	<u>Don Brandon P.E.</u>		

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On March 16, 2015 a Gulf States materials representative delivered a bulk sample of Calcium Sulfate Base material (**GS-100**) sampled from stockpile located at Gulf States Materials in La Porte, Texas. The purpose of the sample was to determine the unconfined compressive strength of the material without any cementitious or chemical admixtures. Specimens were tested for unconfined compressive strength at 7, 14, and 28 days as requested by Gulf States Materials.

  
HTS, Inc Consultants Firm Reg. No. F-3478  


NOTE: Test results comply with project specifications except those marked \*.  
THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE APPROVAL OF HTS, INC.



TEXAS DEPARTMENT OF TRANSPORTATION

SOIL-CEMENT OR LIME TESTING  
 Tex-120-E : PART I or Tex-121-E PART (I, II, or III)

Refresh Workbook

File Version: 05/19/11 09:31:35

SAMPLE ID:	1531	SAMPLED DATE:	03/16/2015
TEST NUMBER:	1	LETTING DATE:	N/A
SAMPLE STATUS:	Complete	CONTROLLING CSJ:	N/A
COUNTY:	Harris	SPEC YEAR:	2004
SAMPLED BY:	Gulf States Materials	SPEC ITEM:	247
SAMPLE LOCATION:	Plant	SPECIAL PROVISION:	N/A
MATERIAL CODE:	N/A	GRADE:	N/A
MATERIAL NAME:	GS 100 (Calcium Sulfate Base Material-Untreated)		
PRODUCER:	Gulf States Materials		
AREA ENGINEER:	N/A	PROJECT MANAGER:	N/A

COURSE/LIFT:	N/A	STATION:	N/A	DIST. FROM CL:	N/A
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Performed By Tex-120-E Manual:  Tex-120-E  Manual

Soil-Cement Test Data Sheet												
	7 Day			14 Day			28 Day					
Percent Cement, (%)	0			0			0					
Specimen Number:	1-1	1-2	1-3	2-1	2-2	2-3	3-1	3-2	3-3	4-1	4-2	4-3
Initial Height of Specimen, in.:	12.001	12.008	11.999	12.001	12.003	12.008	12.006	12.002	11.998			
Height of Stone 1, in.:	2.001	2.005	1.998	2.002	2.001	2.004	2.001	2.008	1.997			
Height of Stone 2, in.:	2.002	1.998	2.000	2.002	2.004	2.002	2.001	1.997	2.002			
New Height of Specimen, in.:	7.998	8.005	8.001	7.997	7.998	8.002	8.004	7.997	7.999			
Average Diameter, in.:	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00			
Circumference, in.:	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85			
Area, in.^2:	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28			
Avg. Cross Sectional Area, in.^2:	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28	28.28			
Lateral Pressure, psi.:	0	0	0	0	0	0	0	0	0			
Ring Factor, lbs./div												
Dead Load, lbs.:	3080.00	3250.00	3180.00	7080.00	6810.00	6850.00	10990.00	10870.00	10850.00			
Max. Load Reading, div.												
Deformation at Max Load, in.												
Uncorr'd Stress, psi.:	108.9	114.9	112.5	250.4	240.8	242.3	388.7	384.4	383.7			
% Strain, in./in.:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
I-Strain, in./in.:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			
Corrected Stress, psi.:	108.9	114.9	112.5	250.4	240.8	242.3	388.7	384.4	383.7			
Avg. Corrected Stress, psi.:			112.1			244.5			385.6			

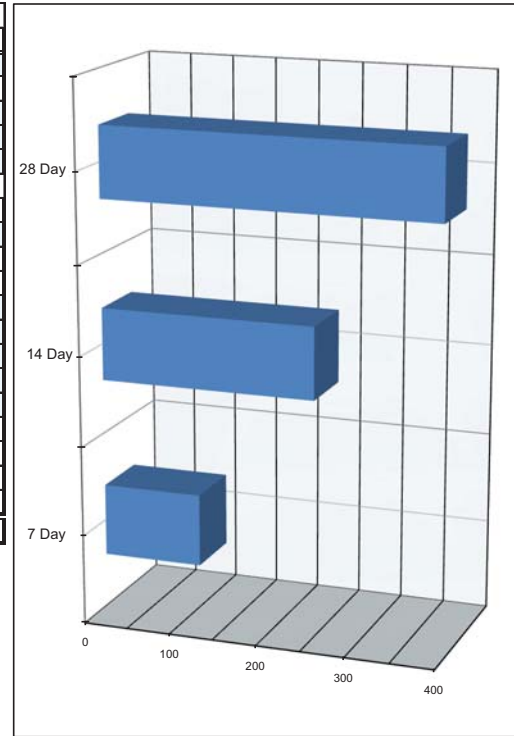
Percent Cement, (%)	1	2	3
	0	0	0
Avg. Corrected Stress, psi.:	112.1	244.5	385.6

Target Stress, psi.:	N/A
Target Percent Cement, %:	N/A

Remarks:

**GS100 not stabilized with any cementitious materials for this test.**

Test Method:	Tested By:	Tested Date:
TX120	Jason Lay (SB 202 No.105)	04/24/15
TX121		
Test Stamp Code:	Omit Test:	Completed Date:
Locked By:	TxDOT:	District:
Authorized By:	Authorized Date:	



TEXAS DEPARTMENT OF TRANSPORTATION



Moisture-Density Relations of Base Material & Sand or Subgrade & Embankment Soils  
Tex-113-E or Tex-114-E

File Version: 06/25/12 15:50:54

SAMPLE ID:	1531	SAMPLED DATE:	03/16/2015
TEST NUMBER:	1A	LETTING DATE:	N/A
SAMPLE STATUS:	Complete	CONTROLLING CSJ:	N/A
COUNTY:	Harris	SPEC YEAR:	2004
SAMPLED BY:	Gulf States Materials	SPEC ITEM:	247
SAMPLE LOCATION:	Plant	SPECIAL PROVISION:	N/A
MATERIAL CODE:	GS-100	GRADE:	N/A
MATERIAL NAME:	GS 100 (Calcium Sulfate Base Material- Untreated)		
PRODUCER:	Gulf States Materials		
AREA ENGINEER:	N/A	PROJECT MANAGER:	N/A
COURSE/LIFT:	N/A	STATION:	N/A
		DIST. FROM CL:	N/A

Moisture-Density Work Sheet

Oven Dry Weight, (g):				
Weight of Pycnometer & Water, (g):				
Weight of Aggr., Pycn. & Water, (g):				
Specific Gravity (Apparent)(Override):				
Specific Gravity (Apparent)(Calc):	2.65			
Hygroscopic Moisture, (%):	16.5			
Sample Number :	1	2	3	4
Percent Water Content, (%)	5	7	9	11
Mass Material, (lb):	15.5	16.5	16.9	16
Mass Water Added, (lb):	0.775	1.155	1.521	1.76
Wet Mass Specimen & Mold, (lb):	26.89	27.735	28.119	27.278
Mass of Mold, (lb):	11.447	11.447	11.447	11.447
Wet Mass Specimen, (lb):	15.443	16.288	16.672	15.831
Height of Specimen, (in.):	8.007	8.014	8.001	7.988
Volume per Linear mm., (in.):	0.01635	0.01635	0.01635	0.01635
Volume of Specimen, (ft³):	0.13091445	0.1310289	0.13081635	0.1306038
Wet Density of Specimen, (lb):	117.96	124.31	127.45	121.21
Wet Mass of Pan & Specimen, (lb):	16.599	17.472	18.078	17.42
Dry Mass Pan & Specimen, (lb):	15.851	16.404	16.675	15.848
Tare Mass Pan, (lb):	1.156	1.184	1.169	1.589
Dry Mass Material, (lb):	14.695	15.22	15.506	14.259
Mass Water, (lb):	0.748	1.068	1.403	1.572
Percent Water on Total, (%):	5.09	7.02	9.05	11.02
Dry Density, (pcf):	112.25	116.16	116.87	109.18
Estimated Dry Density, (pcf):	112.34	116.18	116.93	109.20

Import Data	Import SCA Data 1		Import SCA Data 2		Import SCA Data 3		Import SCA Data 4	
SCA Energy Data	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)
Lift 1:	757.6	13.6	756.1	13.9	757.8	13.9	756.4	13.9
Lift 2:	757.1	13.8	752.2	13.7	754.6	13.8	759.0	13.9
Lift 3:	754.8	13.6	761.2	13.5	755.4	13.6	755.9	13.8
Lift 4:	758.9	13.4	761.9	13.3	758.8	13.4	760.5	13.4

SCA Drop Data	Avg. Drop Ht. (in)	Blows	Avg. Drop Ht.(in)	Blows	Avg. Drop Ht.(in)	Blows	Avg. Drop Ht.(in)	Blows
Lift 1:	18.40	56	18.41	54	18.39	55	18.41	54
Lift 2:	18.32	55	18.36	55	18.34	55	18.37	55
Lift 3:	18.29	56	18.32	56	18.32	56	18.34	55
Lift 4:	18.33	57	18.33	57	18.35	57	18.34	57

Unconfined Strength Data (psi):				
Percent Strain (%):				

Max Dry Density, (pcf):	117.3
Optimum Moisture Content, (%):	7.8
M-D Graph R <sup>2</sup> Value:	0.97

Remarks:  
**GS100 not stabilized with any cementitious materials for this test.**

Test Method:	Tested By:	Tech Cert No:	Tested Date:
TX113	Jason Lay	SB 202-No.105	03/27/15
TX114			
Test Stamp Code:	Omit Test:	Completed Date:	Reviewed By:
Locked By:	TxDOT:	District:	Area:
Authorized By:		Authorized Date:	

