



Certificate # 3512.05

Construction Materials Testing Laboratory - FUGRO - SUHAIMI
Jubail Branch

P.O. Box 2165 – Tel.: (013) 341 2700
 Dammam 31451 – Fax.: (013) 341 2701
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SUMMARY OF TEST REPORT

Client	A.H. Al Marhoon & Bros. Co.	Job No.	SA08-3012
Project	Concrete Batch Plant, Rahima	Lab No.	10858
Material	3/4” (20 mm) Coarse Aggregate	Date Sampled	01 June 2015
Source	Al Osais, Abuhadriya (Sampled by FSL)	Date Reported	13 June 2015

Properties:

Properties Tested	Test Method	Results	S. Aramco Specification
Sieve analysis	ASTM C-136	See Attached	--
Material finer than No. 200 sieve %	ASTM C-117	0.14	5.0 max.
Clay lumps & friable particles %	ASTM C-142	0.34	5.0 Max.
Los Angeles Abrasion	ASTM C-131	--	
Loss at 100 revolutions %		7.8	--
Loss at 500 revolutions %		32.5	40 max.
Ratio 100/500 rev.		0.24	--
Magnesium sulfate soundness loss (5 cycles) %	ASTM C-88	12.2	25.0 max.
Specific gravity and absorption	ASTM C-127		
Apparent		2.638	--
SSD basis		2.591	--
Dry basis		2.563	--
Absorption		1.1	2.5 max
Acid soluble chloride, (Cl), %	ASTM C 114		
(Cl), %		0.016	0.03 max
Acid soluble sulphate (SO ₃), %	BS-812 Part 118		
(SO ₃), %		0.310	0.40 Max
Flakiness index	BS-812	11.4	--
Elongation index	BS-812	13.0	--
Coal & lignite	ASTM C-123	NIL	--

Remarks: All test results indicate compliance with the Saudi Aramco standard 09-SAMSS-088.

Tested By: Thomas
 CTTA # : 0194

Reviewed By: Imran Ahmed
 CTTA # : 0556



Sr Laboratory Supervisor
Muhammad Nawaz CTTA # 0037

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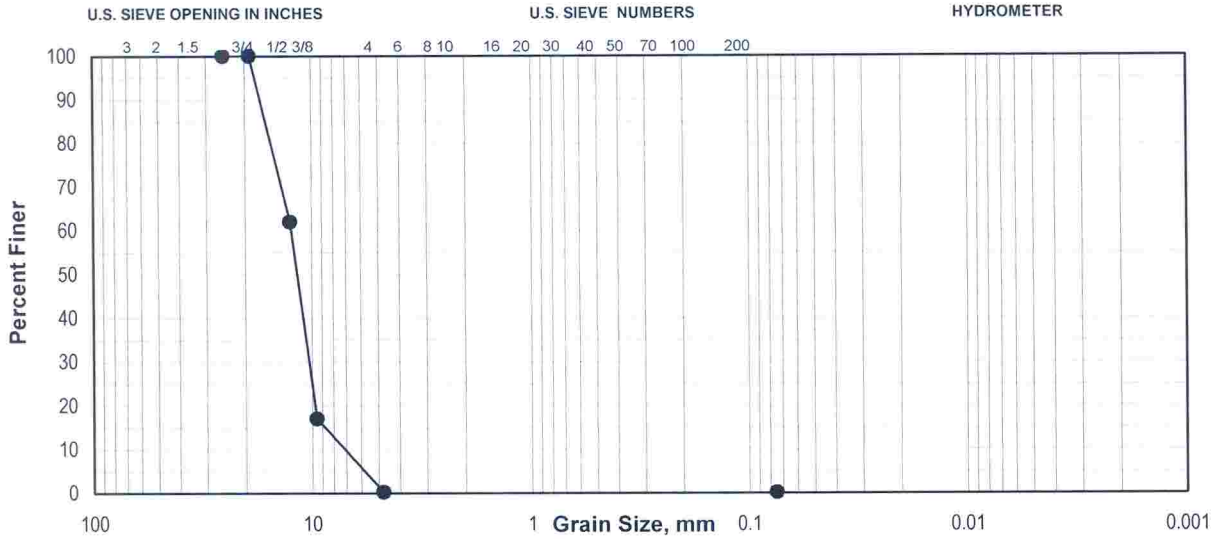


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PARTICLE SIZE ANALYSIS TEST REPORT

السحيمي - فيفرو

Client	A.H. Al Marhoon & Bros. Co.	Job No.	SA08-3012
Project	Concrete Batch Plant, Rahima	Lab No.	10858
Material	3/4" (20 mm) Coarse Aggregate	Date Sampled	01 June 2015
Source	Al Marhoon RMC Plant	Date Tested	03-04 June



Method	ASTM C-136/117	Date Reported	13 June 2015
Gravel		Sand	
Coarse	fine	Coarse	medium fine
Silt or Clay			


Description of Sand / Gravel Particles:

Shape	Hardness	Specific Gravity

Sieve Size Inch(mm)	Passing g %	Specification	Properties Tested		
			Item	Description	Result
1 (25.0 mm)	100				
3/4 (19 mm)	100				
1/2 (12.5 mm)	62				
3/8 (9.5 mm)	17				
#4 (4.75 mm)	0.2				
#8 (2.36 mm)	-				
#16 (1.18 mm)	-				
#30(600)	-				
#50(300)	-				
#100 (0.15 mm)	-				
#200 (75 mm)	0.14				

Remarks

Tested By: Thomas Reviewed By: Imran Ahmed
CTTA # : 0194 CTTA # : 0556


Material Division
Jubail
Sr. Laboratory Supervisor
Muhammad Nawaz CTTA # 0037

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SUMMARY OF TEST REPORT

Client	A.H. Al Marhoon & Bros. Co.	Job No.	SA08-3012
Project	Concrete Batch Plant, Rahima	Lab No.	10859
Material	3/8" (10- mm) Coarse Aggregate	Date Sampled	01 June 2015
Source	Al Osais, Abuhadriya (Sampled by FSL)	Date Reported	13 June 2015

Properties:

Properties Tested	Test Method	Results	S. Aramco Specification
Sieve analysis	ASTM C-136	See Attached	--
Material finer than No. 200 sieve %	ASTM C-117	0.32	5.0 max.
Clay lumps & friable particles %	ASTM C-142	0.51	5.0 max.
Los Angeles Abrasion	ASTM C-131	--	--
Loss at 100 revolutions %		8.2	--
Loss at 500 revolutions %		34.2	40 max.
Ratio 100/500 rev.		0.24	--
Magnesium sulfate soundness loss (5 cycles) %	ASTM C-88	15.0	25.0 max.
Specific gravity and absorption	ASTM C-127	--	--
Apparent		2.630	--
SSD basis		2.568	--
Dry basis		2.530	--
Absorption		1.5	2.5 max
Acid soluble chloride, (Cl), %	ASTM C 114	--	0.03 max
Acid soluble sulphate (SO ₃), %	BS-812 Part 118	0.279	0.40 Max
Flakiness index	BS-812	11.6	--
Elongation index	BS-812	10.6	--
Coal & lignite	ASTM C-123	Nil	--

Remarks: All test results indicate compliance with the Saudi Aramco standard 09-SAMSS-088.

Tested By: Thomas
CTTA # : 0194

Reviewed By: Imran Ahmed
CTTA # : 0556



St. Laboratory Supervisor
Muhammad Nawaz CTTA # 0037

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