



Certificate # 3512.05

Construction Materials Testing Laboratory  
Jubail Branch

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**SUMMARY OF TEST REPORT**

<b>Client</b>	A.H. Al Marhoon & Bros. Co.	<b>Job No.</b>	SA08-3012
<b>Project</b>	Concrete Batch Plant, Rahima	<b>Lab No.</b>	10408
<b>Material</b>	3/4" (20 mm) Coarse Aggregate	<b>Date Sampled</b>	01 Apr. 2015
<b>Source</b>	Al Osais, Abuhadriya (Sampled by FSL)	<b>Date Reported</b>	13 Apr. 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	0.5	5.0 max.
Clay lumps & friable particles %	ASTM C-142	0.45	5.0 Max.
Los Angeles Abrasion	ASTM C-131		
Loss at 100 revolutions %		7.6	--
Loss at 500 revolutions %		32	40 max.
Ratio 100/500 rev.		0.24	--
Magnesium sulfate soundness loss (5 cycles) %	ASTM C-88	12.5	25.0 max.
Specific gravity and absorption	ASTM C-127		
Apparent		2.653	--
SSD basis		2.595	--
Dry basis		2.550	--
Absorption		1.3	2.5 max
Acid soluble chloride, (Cl), %	ASTM C 114		
(Cl), %		0.015	0.03 max
Acid soluble sulphate (SO <sub>3</sub> ), %	BS-812 Part 118	0.046	0.40 Max
Flakiness index	BS-812	11	--
Elongation index	BS-812	7	--
Coal & lignite	ASTM C-123	NIL	--

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

Tested By: Jose Daniel  
CTTA # : 0195

Reviewed By: Imran Ahmed  
CTTA # : 0556



**Sr. Laboratory Supervisor**  
Muhammad Nawaz CTTA # 0037

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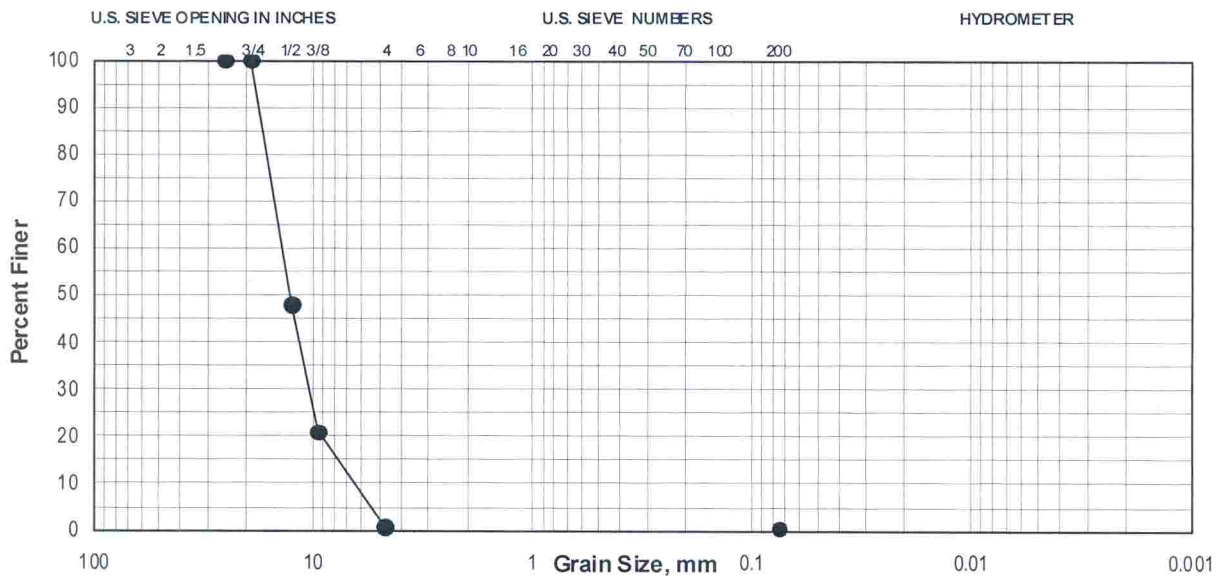
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السحيمي - فيغرو

**PARTICLE SIZE ANALYSIS TEST REPORT**

<b>Client</b>	A.H. Al Marhoon & Bros. Co.	<b>Job No.</b>	SA08-3012
<b>Project</b>	Concrete Batch Plant, Rahima	<b>Lab No.</b>	10408
<b>Material</b>	3/4" (20 mm) Coarse Aggregate	<b>Date Sampled</b>	01 Apr. 2015
<b>Source</b>	Al Osais, Abuhadriya (Sampled by FSL)	<b>Date Tested</b>	05 Apr. 2015
<b>Method</b>	ASTM C-117/136	<b>Date Reported</b>	13 Apr. 2015



Gravel		Sand			Silt or Clay
Coarse	fine	Coarse	medium	fine	

**Description of Sand / Gravel Particles:**

Shape	Hardness	Specific Gravity

Sieve Size Inch(mm)	Passing %	Specification	Properties Tested		
			Item	Description	Result
1 (25.0 mm)	100				
3/4 (19 mm)	100				
1/2 (12.5 mm)	48				
3/8 (9.5 mm)	21				
#4 (4.75 mm)	0.7				
#8 (2.36 mm)	-				
#16 (1.18 mm)	-				
#100 (0.15 mm)	-				
#200 (75 mm)	0.5				

<b>Remarks</b>	
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**Muhammad Nawaz** Laboratory Supervisor  
CTTA # 0037

## SUMMARY OF TEST REPORT

<b>Client</b>	A.H. Al Marhoon & Bros. Co.	<b>Job No.</b>	SA08-3012
<b>Project</b>	Concrete Batch Plant, Rahima	<b>Lab No.</b>	10409
<b>Material</b>	3/8" (10- mm) Coarse Aggregate	<b>Date Sampled</b>	01 Apr. 2015
<b>Source</b>	Al Osais, Abuhadriya (Sampled by FSL)	<b>Date Reported</b>	13 Apr. 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	0.7	5.0 max.
Clay lumps & friable particles %	ASTM C-142	0.38	5.0 max.
Los Angeles Abrasion	ASTM C-131		
Loss at 100 revolutions %		8.1	--
Loss at 500 revolutions %		33.96	40 max.
Ratio 100/500 rev.		0.24	--
Magnesium sulfate soundness loss (5 cycles) %	ASTM C-88	14.5	25.0 max.
Specific gravity and absorption	ASTM C-127		
Apparent		2.631	--
SSD basis		2.563	--
Dry basis		2.522	--
Absorption		1.7	2.5 max
Acid soluble chloride, (Cl), %	ASTM C 114		
(Cl), %		0.018	0.03 max
Acid soluble sulphate (SO <sub>3</sub> ), %	BS-812 Part 118	0.321	0.40 Max
Flakiness index	BS-812	12	--
Elongation index	BS-812	17	--
Coal & lignite	ASTM C-123	NIL	--

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

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CTTA # : 0195

Reviewed By: Imran Ahmed  
CTTA # : 0556

شركة السحيمي - فيفرو المحدودة  
**FUGRO - SUHAIMI**  
Material Sr. Laboratory Supervisor  
Jubail Muhammad Nawaz CTTA # 0037

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