Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting

Client:	AMEC Foster Wheeler	**Date:**	May 15, 2015
Address:	600 University Street, #600	**Project:**	ENR Material Testing
	Seattle, WA 98101	**Project #:**	16T026
Attn:	Cliff Whitmus	**Sample #:**	T16-1630

As requested MTC, Inc. has performed the following test(s) on the sample referenced above. The testing was performed in accordance with current applicable AASHTO or ASTM standards as indicated below. The results obtained in our laboratory were as follows below or on the attached pages:

	Test(s) Performed:	Test Results		Test(s) Performed:	Test Results
x	Sieve Analysis	See Attached		Sulfate Soundness	
	Proctor			Bulk Density & Voids	
	Sand Equivalent			WSDOT Degradation	
	Fracture Count				
	Moisture Content				
	pH				
	Minimum Resistivity				
	Organic Content				
	Atterberg Limits				
	Asphalt Extraction/Gradation				
	Rice Density				

If you have any questions concerning the test results, the procedures used, or if we can be of any further assistance please call on us at the number below.

Respectfully Submitted,

Harold Benny
WABO Supervising Laboratory Technician

Materials Testing & Consulting, Inc.

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Sieve Report

Project: ENR Material Testing
Project #: 16T026
Client: AMEC Foster Wheeler
Source: Sample 1, Pacific Pile
Sample#: T16-1630

Date Received: 5-Oct-16
Sampled By: Client
Date Tested: 10-Oct-16
Tested By: H Benny

ASTM D-2487 Unified Soils Classification System
SP, Poorly graded Sand with Gravel
Sample Color:
Gray

ACCREDITED
Certificate #: 1366.01, 1366.02 & 1366.04

ASTM D-2216, ASTM D-2419, ASTM D-4318, ASTM D-5821

Specifications
No Specs
Sample Meets Specs ? N/A

$D_{(5)}$ = 0.474 mm	% Gravel = 47.4%	Coeff. of Curvature, C_C = 0.97
$D_{(10)}$ = 0.734 mm	% Sand = 52.6%	Coeff. of Uniformity, C_U = 11.77
$D_{(15)}$ = 1.097 mm	% Silt & Clay = 0.0%	Fineness Modulus = 5.43
$D_{(30)}$ = 2.483 mm	Liquid Limit = n/a	Plastic Limit = n/a
$D_{(50)}$ = 4.489 mm	Plasticity Index = n/a	Moisture %, as sampled = n/a
$D_{(60)}$ = 8.641 mm	Sand Equivalent = n/a	Req'd Sand Equivalent =
$D_{(90)}$ = 19.665 mm	Fracture %, 1 Face = n/a	Req'd Fracture %, 1 Face =
Dust Ratio = #	Fracture %, 2+ Faces = n/a	Req'd Fracture %, 2+ Faces =

ASTM C-136, ASTM D-6913

Sieve Size US	Sieve Size Metric	Actual Cumulative Percent Passing	Interpolated Cumulative Percent Passing	Specs Max	Specs Min
12.00"	300.00		100%	100.0%	0.0%
10.00"	250.00		100%	100.0%	0.0%
8.00"	200.00		100%	100.0%	0.0%
6.00"	150.00		100%	100.0%	0.0%
4.00"	100.00		100%	100.0%	0.0%
3.00"	75.00		100%	100.0%	0.0%
2.50"	63.00		100%	100.0%	0.0%
2.00"	50.00		100%	100.0%	0.0%
1.75"	45.00		100%	100.0%	0.0%
1.50"	37.50	100%	100%	100.0%	0.0%
1.25"	31.50		100%	100.0%	0.0%
1.00"	25.00	99%	99%	100.0%	0.0%
3/4"	19.00	89%	89%	100.0%	0.0%
5/8"	16.00		80%	100.0%	0.0%
1/2"	12.50	69%	69%	100.0%	0.0%
3/8"	9.50	62%	62%	100.0%	0.0%
1/4"	6.30		56%	100.0%	0.0%
#4	4.75	53%	53%	100.0%	0.0%
#8	2.36		29%	100.0%	0.0%
#10	2.00	25%	25%	100.0%	0.0%
#16	1.18		16%	100.0%	0.0%
#20	0.850	12%	12%	100.0%	0.0%
#30	0.600		7%	100.0%	0.0%
#40	0.425	4%	4%	100.0%	0.0%
#50	0.300		2%	100.0%	0.0%
#60	0.250	1%	1%	100.0%	0.0%
#80	0.180		0%	100.0%	0.0%
#100	0.150	0%	0%	100.0%	0.0%
#140	0.106		0%	100.0%	0.0%
#170	0.090		0%	100.0%	0.0%
#200	0.075	0.0%	0.0%	100.0%	0.0%

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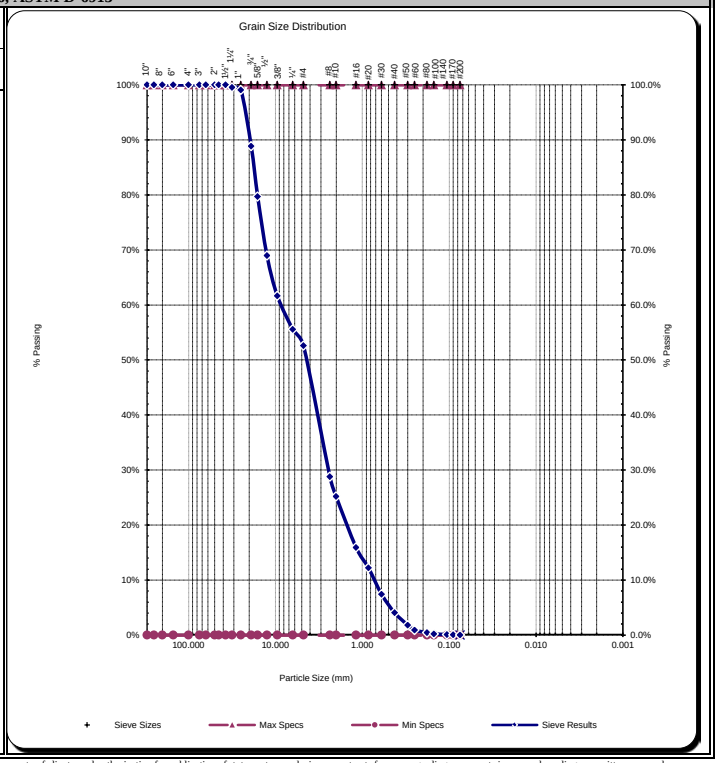

All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Comments: _____

Reviewed by: H Benny

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