

DUBAI ACCREDITATION DEPARTMENT

REPORT ON PTP 181ST INTER-LABORATORY PROFICIENCY TESTING PROGRAM DETERMINATION OF WET SIEVE ANALYSIS IN SOIL

Date: 30 September 2009

1. INTRODUCTION

This document presents the results of the 181st inter-laboratory proficiency-testing program conducted during the month of September involving the determination of **Wet Sieve Analysis in Soil** with thirty four laboratories participating.

This program is part of the Inter-laboratory Comparison Programs organized by Dubai Accreditation Department (DAC) of Dubai Municipality (DM) for monitoring the validity of test results of laboratories operating in Dubai as a requirement of the Local Order 52/1990 and ISO/IEC 17011: 2004.

2. EXPERIMENTAL DESIGN

2.1 Homogeneity:

DAC had ensured the homogeneity of the samples prior to their distribution to the participating laboratories by conducting homogeneity test on six samples (randomly selected). Based on the test results the homogeneity is statistically evaluated as per *ISO 13528:2005* as explained in DAC-G3-03.

2.2 Participants:

Thirty three participants are private laboratories and one accredited governmental laboratory. Most of the private laboratories are from UAE including accredited and registered laboratories also four laboratories from Qatar, a total of thirty four laboratories were participated in this program.

2.3 Samples Tested:

One Soil sample of approximately 2 kg consists of fine sand specimen was distributed to all participating laboratories. With each participant being given one sample with a unique identification number provided during the time of collection.

3. CONFIDENTIALITY

Each laboratory is given a code number to maintain confidentiality of results and to protect their identities. Only the concerned laboratory knows its code number.

4. TEST METHOD

4.1 Instructions were given to the participants to test the samples for Determination of wet sieve analysis as per (BS 1377 PART 2:1990 T 9.2 AMD9027:1996).

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- 4.2. Test Sieves to be used: 5 mm, 3.35 mm, 2 mm, 1.18, 0.600 mm, 0.425 mm, 0.300 mm, 0.212 mm, 0.150 mm, 0.063 mm.

5. TEST RESULTS

The test results submitted by the participating laboratories are presented in Appendix A. In order to protect the identity of the participating laboratories, each one was assigned a code number. The numbers in the column headings, Lab #, of the tables represents the code numbers for the participating laboratories.

6. EVALUATION OF RESULTS

6.1 Method of Analysis

The analysis of the participant's results is based on *ISO 13528:2005 (Statistical Methods for the Use in Proficiency Testing by Inter-laboratory Comparisons)*.

6.2 Calculations of Z- Scores

Appendix B gives the details of the calculation of the laboratories results and their Z-Scores which are obtained from the raw data appendix A. Also Z- Score and participant's results are represented in a bar chart and X-Y scattered plots C. The Z-Score analysis is based on an international Standard (*ISO 13528:2005*).

6.3 Outlier Results

Test	Labs outside the z-scores ± 3
Sieve Analysis (0.300 mm)	Lab 68 : Lab 88: Lab EX4
Sieve Analysis (0.150 mm)	Lab 68 ; Lab 88 : Lab IN 01, Lab EX1 ; Lab EX4
Sieve Analysis (0.063 mm)	Lab 39: Lab 88: Lab IN 01

After evaluating the Z-Score the test results provided by the above mentioned laboratories are outside the Z - score limits of ± 3 , the above mentioned laboratories are requested to investigate the root cause of the outlier results, implement corrective action and a report shall be available for checking by assessment team during the nearest assessment visit.

Also other participating laboratories have showed Z-score values higher than **two** which representing **not outlier** but a warring limit, these laboratories are advised to investigate the potential root cause of such results.

7. APPENDICES

- 7.1 Appendix A: Raw Data
7.2 Appendix B: Calculation of z-scores and other statistics
7.3 Appendix C: Charts

---- End of Report ----

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Our Vision : To create an excellent city that provides the essence of success and comfort of living.

Determination of Wet Sieve Analysis in Soil

Appendix A:

Table - 1 (0.300 mm)

Lab #	Results
Lab 88	84.3
Lab 68	85
Lab EX4	88
Lab EX1	89
Lab EX6	89
Lab 21	90
Lab 23	90
Lab 3	90
Lab 39	90
Lab 56	90
Lab 57	90
Lab 64	90
Lab 7	90
Lab 71	90
Lab 72	90
Lab 74	90
Lab 76	90
Lab 78	90
Lab 79	90
Lab 82	90
Lab 89	90
Lab 9	90
Lab EX2	90
Lab EX3	90
Lab G01	90
Lab IN 01	90
Lab 67	90.55
Lab 28	91
Lab 4	91
Lab 66	91
Lab 84	91
Lab 85	91
Lab EX5	91
Lab 58	92

Table - 2 (0.150 mm)

Lab #	Results
Lab 88	40.7
Lab IN 01	41
Lab 68	47
Lab EX4	48
Lab EX1	51
Lab 39	54
Lab 7	54
Lab 72	54
Lab EX2	54
Lab EX5	54
Lab 64	55
Lab EX3	55
Lab 57	56
Lab 74	56
Lab 79	56
Lab 82	56
Lab 85	56
Lab 89	56
Lab EX6	56
Lab 21	57
Lab 23	57
Lab 28	57
Lab 3	57
Lab 56	57
Lab 58	57
Lab 66	57
Lab 71	57
Lab 76	57
Lab 84	57
Lab 9	57
Lab G01	57
Lab 67	57.4
Lab 78	58
Lab 4	59

Table - 3 (0.063 mm)

Lab #	Results
Lab EX2	0.5
Lab 68	1
Lab 74	1
Lab EX1	1
Lab EX3	1
Lab EX4	1
Lab EX6	1
Lab 21	2
Lab 23	2
Lab 28	2
Lab 3	2
Lab 4	2
Lab 56	2
Lab 57	2
Lab 58	2
Lab 64	2
Lab 66	2
Lab 7	2
Lab 71	2
Lab 72	2
Lab 76	2
Lab 78	2
Lab 79	2
Lab 82	2
Lab 84	2
Lab 85	2
Lab 89	2
Lab 9	2
Lab EX5	2
Lab G01	2
Lab 67	2.9
Lab 39	4
Lab IN 01	4
Lab 88	4.2

Determination of Wet Sieve Analysis in Soil

Appendix B: Calculation of z-scores and other statistics

Table - 1 (0.300 mm)

Iteration	0		1		2		3		4		5		6		Z Score
$\delta = 1.5 s^*$	---	xi-x*	2.22	(xi-x*) ²	1.36	(xi-x*) ²	1.17	(xi-x*) ²	1.08	(xi-x*) ²	1.05	(xi-x*) ²	1.03	(xi-x*) ²	
$x^* - \delta$	---		87.78		88.64		88.88		88.99		89.03		89.06		
$x^* + \delta$	---		92.22		91.37		91.22		91.15		91.13		91.11		
Lab 88	84.3	5.70	87.78	0.00	88.64	2.00	88.88	1.41	88.99	1.19	89.03	1.11	89.06	1.06	-8.56
Lab 68	85	5.00	87.78	4.94	88.64	2.00	88.88	1.41	88.99	1.19	89.03	1.11	89.06	1.06	-7.52
Lab EX4	88	2.00	88.00	4.01	88.64	2.00	88.88	1.41	88.99	1.19	89.03	1.11	89.06	1.06	-3.09
Lab EX1	89	1.00	89.00	1.01	89.00	1.11	89.00	1.15	89.00	1.16	89.03	1.11	89.06	1.06	-1.61
Lab EX6	89	1.00	89.00	1.01	89.00	1.11	89.00	1.15	89.00	1.16	89.03	1.11	89.06	1.06	-1.61
Lab 21	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 23	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 3	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 39	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 56	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 57	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 64	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 7	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 71	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 72	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 74	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 76	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 78	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 79	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 82	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 89	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 9	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab EX2	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab EX3	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab G01	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab IN 01	90	0.00	90.00	0.00	90.00	0.00	90.00	0.01	90.00	0.01	90.00	0.01	90.00	0.01	-0.13
Lab 67	90.55	0.55	90.55	0.30	90.55	0.25	90.55	0.23	90.55	0.22	90.55	0.22	90.55	0.21	0.69
Lab 28	91	1.00	91.00	0.99	91.00	0.89	91.00	0.86	91.00	0.85	91.00	0.84	91.00	0.83	1.35
Lab 4	91	1.00	91.00	0.99	91.00	0.89	91.00	0.86	91.00	0.85	91.00	0.84	91.00	0.83	1.35
Lab 66	91	1.00	91.00	0.99	91.00	0.89	91.00	0.86	91.00	0.85	91.00	0.84	91.00	0.83	1.35
Lab 84	91	1.00	91.00	0.99	91.00	0.89	91.00	0.86	91.00	0.85	91.00	0.84	91.00	0.83	1.35
Lab 85	91	1.00	91.00	0.99	91.00	0.89	91.00	0.86	91.00	0.85	91.00	0.84	91.00	0.83	1.35
Lab EX5	91	1.00	91.00	0.99	91.00	0.89	91.00	0.86	91.00	0.85	91.00	0.84	91.00	0.83	1.35
Lab 58	92	2.00	92.00	3.99	91.37	1.72	91.22	1.33	91.15	1.16	91.13	1.09	91.11	1.05	2.83
Average	89.82		90.00	21.22	90.05	15.63	90.07	13.37	90.08	12.49	90.08	12.02	90.09	11.73	
SD	1.48		0.89	0.64	0.69	0.47	0.64	0.41	0.62	0.38	0.60	0.36	0.60	0.36	
New x*	90	0.00	90.00	0.80	90.05	0.69	90.07	0.64	90.08	0.62	90.08	0.60	90.09	0.60	
New s*	1.48		0.91		0.78		0.72		0.70		0.68		0.68	0.77	

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Target value	90.09
Low Acceptable	88.06
High Acceptable	92.11
Acceptable Range	88.06 -92.11

Determination of Wet Sieve Analysis in Soil

Appendix B: Calculation of z-scores and other statistics

Table - 2 (0.150 mm)

Iteration	0		1		2		3		4		5		6		Z Score
$\delta = 1.5 s^*$	---	xi-x*	2.22	(xi-x*) ²	2.46	(xi-x*) ²	2.46	(xi-x*) ²	2.46	(xi-x*) ²	2.20	(xi-x*) ²	2.16	(xi-x*) ²	
$x^* - \delta$	---		53.78		53.38		53.38		53.38		53.64		53.68		
$x^* + \delta$	---		58.22		58.29		58.29		58.29		58.03		57.99		
Lab 88	40.7	15.30	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.23	53.78	4.23	-10.57
Lab IN 01	41	15.00	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.23	53.78	4.23	-10.36
Lab 68	47	9.00	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.23	53.78	4.23	-6.17
Lab EX4	48	8.00	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.23	53.78	4.23	-5.47
Lab EX1	51	5.00	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.26	53.78	4.23	53.78	4.23	-3.38
Lab 39	54	2.00	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.36	54.00	3.35	-1.28
Lab 7	54	2.00	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.36	54.00	3.35	-1.28
Lab 72	54	2.00	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.36	54.00	3.35	-1.28
Lab EX2	54	2.00	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.36	54.00	3.35	-1.28
Lab EX5	54	2.00	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.38	54.00	3.36	54.00	3.35	-1.28
Lab 64	55	1.00	55.00	0.70	55.00	0.70	55.00	0.70	55.00	0.70	55.00	0.69	55.00	0.69	-0.58
Lab EX3	55	1.00	55.00	0.70	55.00	0.70	55.00	0.70	55.00	0.70	55.00	0.69	55.00	0.69	-0.58
Lab 57	56	0.00	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	0.12
Lab 74	56	0.00	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	0.12
Lab 79	56	0.00	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	0.12
Lab 82	56	0.00	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	0.12
Lab 85	56	0.00	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	0.12
Lab 89	56	0.00	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	0.12
Lab EX6	56	0.00	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	56.00	0.03	0.12
Lab 21	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 23	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 28	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 3	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 56	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 58	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 66	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 71	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 76	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 84	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 9	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab G01	57	1.00	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.35	57.00	1.36	57.00	1.37	0.82
Lab 67	57.4	1.40	57.40	2.44	57.40	2.44	57.40	2.44	57.40	2.44	57.40	2.46	57.40	2.46	1.10
Lab 78	58	2.00	58.00	4.67	58.00	4.67	58.00	4.67	58.00	4.67	58.00	4.70	57.99	4.66	1.52
Lab 4	59	3.00	58.22	5.69	58.22	5.69	58.22	5.69	58.22	5.69	58.03	4.85	57.99	4.66	2.21
Average	54.65		55.84	68.76	55.84	68.76	55.84	68.76	55.84	68.76	55.83	67.89	55.83	67.64	
SD	4.32		1.44	2.08	1.44	2.08	1.44	2.08	1.44	1.67	1.43	1.61	1.43	1.59	
New x*	56	1.00	55.838	1.44	55.838	1.44	55.838	1.44	55.838	1.29	55.83	1.27	55.83	1.26	
New s*	1.48		1.637		1.637		1.637		1.464		1.438		1.43		

N 34

Target value	55.83
Low Acceptable	51.54
High Acceptable	60.12
Acceptable Range	51.54 - 60.12

Determination of Wet Sieve Analysis in Soil

Appendix B: Calculation of z-scores and other statistics

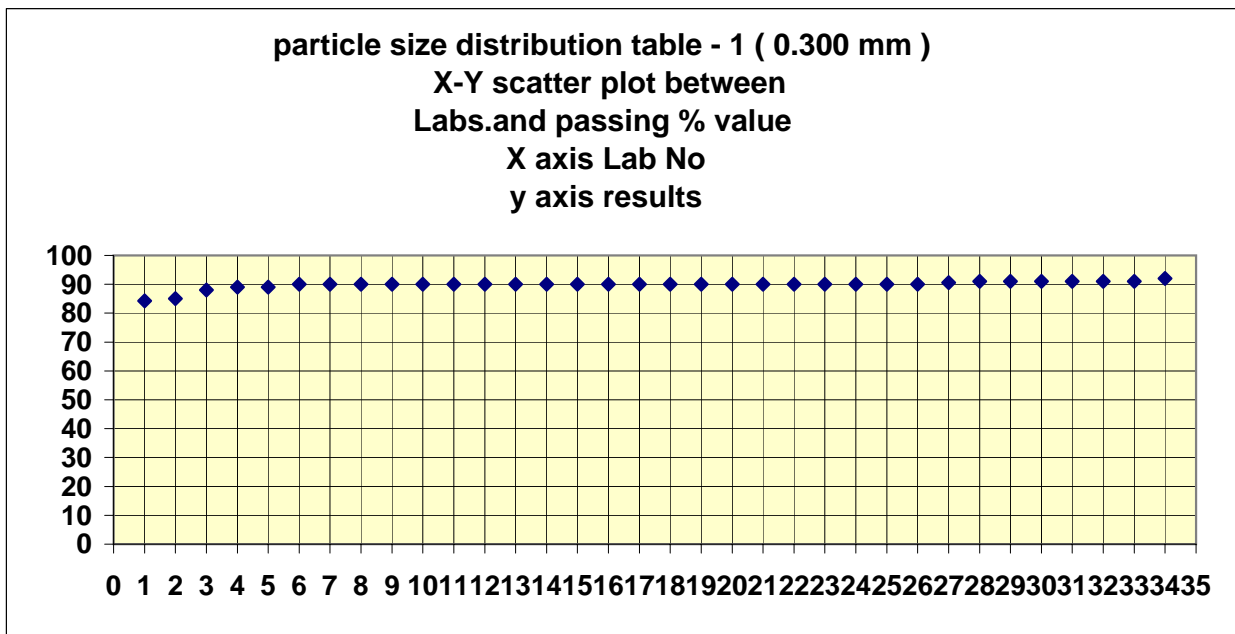
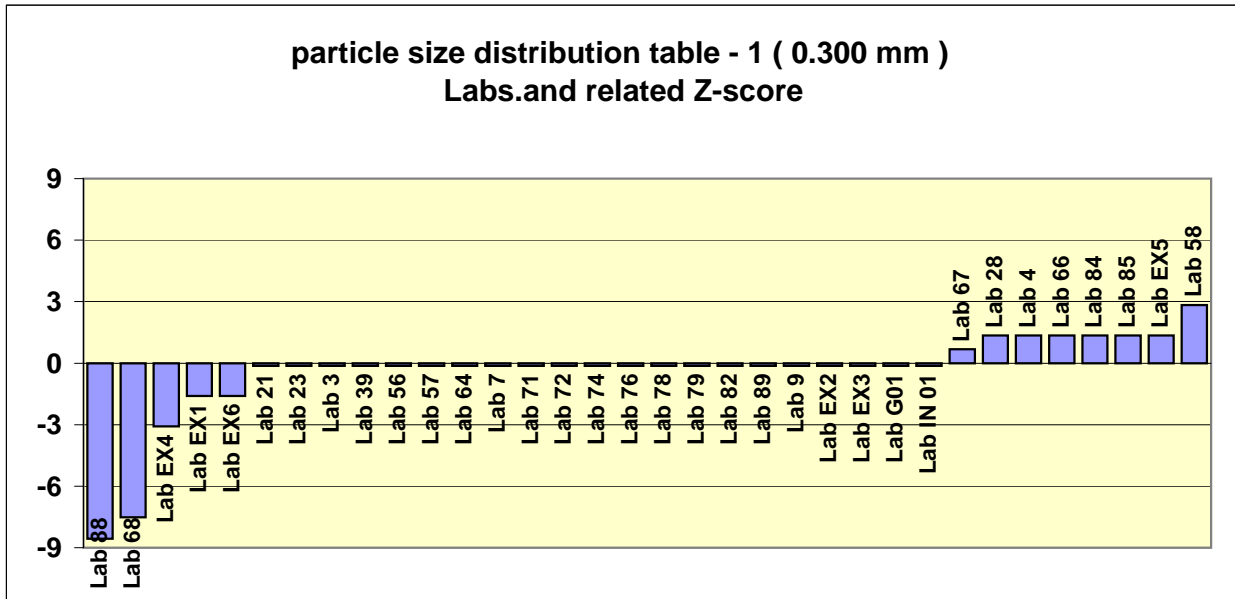
Table - 3 (0.063 mm)

Iteration	0		1		2		3		4		5		6		Z Score
$\delta = 1.5 s^*$	---	xi-x*	1.22	(xi-x*) ²	1.05	(xi-x*) ²	0.96	(xi-x*) ²	0.92	(xi-x*) ²	0.90	(xi-x*) ²	0.89	(xi-x*) ²	
$x^* - \delta$	---		0.79		0.87		0.94		0.97		0.99		0.99		
$x^* + \delta$	---		3.22		2.97		2.86		2.82		2.79		2.78		
Lab EX2	0.5	1.50	0.79	1.29	0.87	1.06	0.94	0.91	0.97	0.85	0.99	0.81	0.99	0.80	-2.34
Lab 68	1	1.00	1.00	0.85	1.00	0.81	1.00	0.80	1.00	0.79	1.00	0.79	1.00	0.78	-1.49
Lab 74	1	1.00	1.00	0.85	1.00	0.81	1.00	0.80	1.00	0.79	1.00	0.79	1.00	0.78	-1.49
Lab EX1	1	1.00	1.00	0.85	1.00	0.81	1.00	0.80	1.00	0.79	1.00	0.79	1.00	0.78	-1.49
Lab EX3	1	1.00	1.00	0.85	1.00	0.81	1.00	0.80	1.00	0.79	1.00	0.79	1.00	0.78	-1.49
Lab EX4	1	1.00	1.00	0.85	1.00	0.81	1.00	0.80	1.00	0.79	1.00	0.79	1.00	0.78	-1.49
Lab EX6	1	1.00	1.00	0.85	1.00	0.81	1.00	0.80	1.00	0.79	1.00	0.79	1.00	0.78	-1.49
Lab 21	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 23	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 28	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 3	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 4	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 56	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 57	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 58	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 64	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 66	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 7	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 71	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 72	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 76	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 78	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 79	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 82	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 84	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 85	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 89	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 9	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab EX5	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab G01	2	0.00	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	2.00	0.01	0.19
Lab 67	2.9	0.90	2.90	0.96	2.90	1.00	2.86	0.94	2.82	0.86	2.79	0.82	2.78	0.80	1.71
Lab 39	4	2.00	3.22	1.67	2.97	1.14	2.86	0.94	2.82	0.86	2.79	0.82	2.78	0.80	3.57
Lab IN 01	4	2.00	3.22	1.67	2.97	1.14	2.86	0.94	2.82	0.86	2.79	0.82	2.78	0.80	3.57
Lab 88	4.2	2.20	3.22	1.67	2.97	1.14	2.86	0.94	2.82	0.86	2.79	0.82	2.78	0.80	3.91
Average	1.99		1.92	12.51	1.90	10.57	1.89	9.74	1.89	9.32	1.89	9.11	1.89	9.01	
SD	0.81		0.62	0.38	0.57	0.32	0.54	0.30	0.53	0.28	0.53	0.28	0.52	0.27	
New x*	2	0.00	1.92	0.62	1.90	0.57	1.89	0.54	1.89	0.53	1.89	0.53	1.89	0.52	
New s*	0.81		0.70		0.64		0.62		0.60		0.60		0.59		
N	34														

Target value	1.89
Low Acceptable	0.11
High Acceptable	3.66
Acceptable Range	0.11 - 3.66

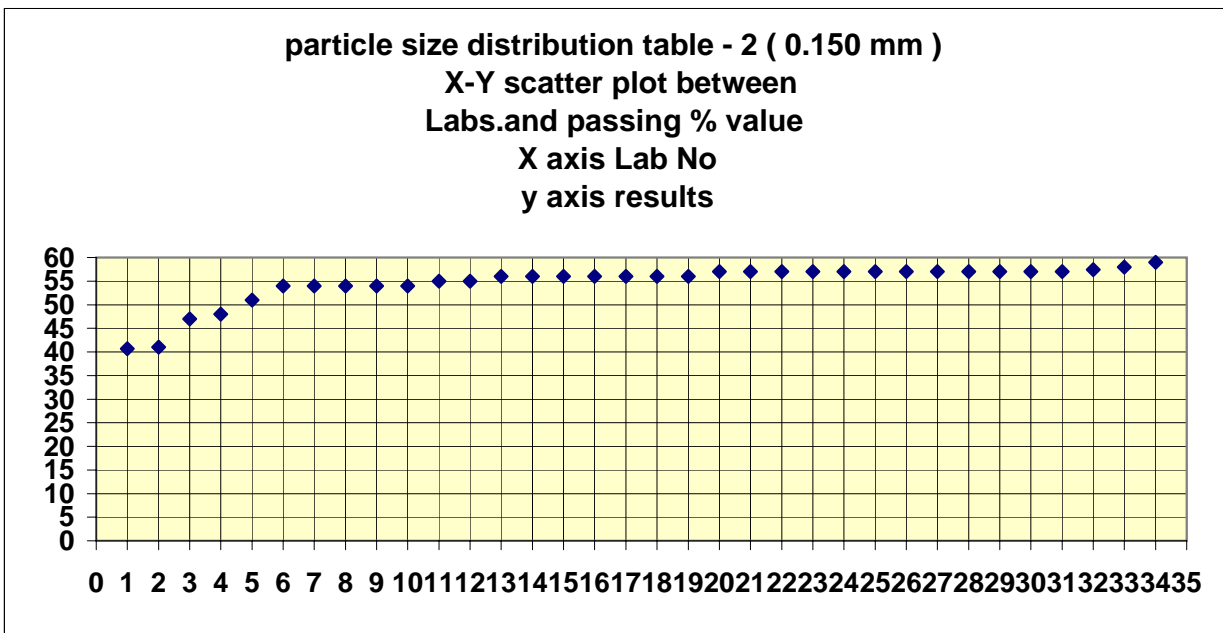
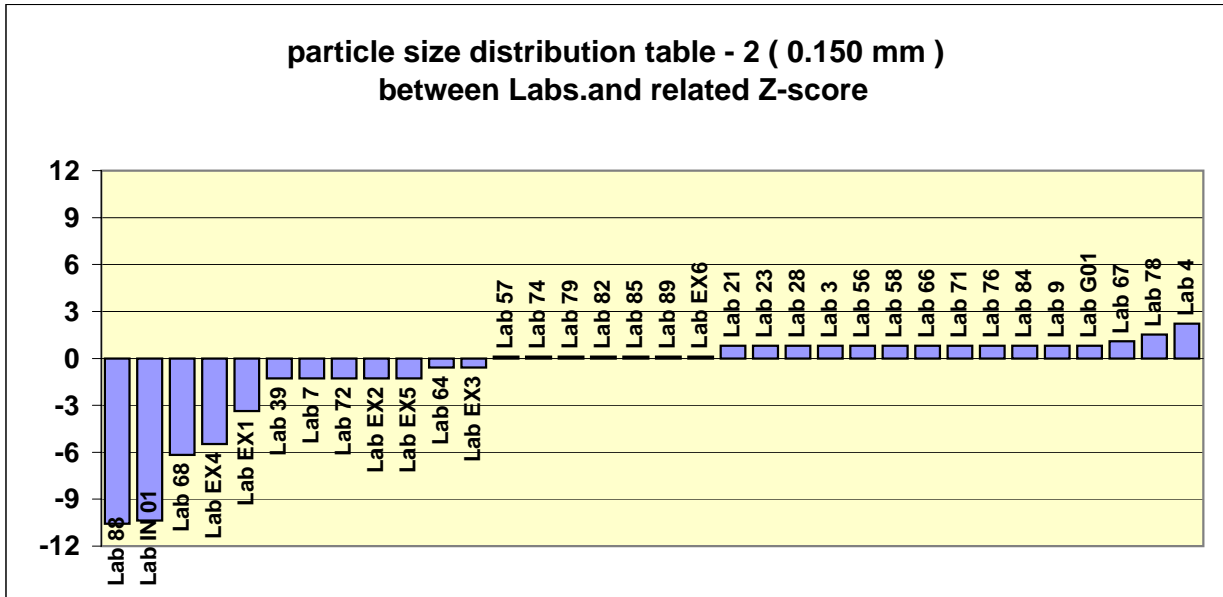
Determination of Wet Sieve Analysis in Soil

Appendix C: Charts



Determination of Wet Sieve Analysis in Soil

Appendix C: Charts



Determination of Wet Sieve Analysis in Soil

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