

CCC-11082008-0275

Date: 11 August 2008

Invoice No.: INV/PT-LB/22

Participant Name:

Fax No. :

Attention: Laboratory Manager

Subject: **Invoice For Participation in Inter-Laboratory Proficiency Testing Program (PTP)**

You are hereby requested to pay to Dubai Accreditation Department, Dubai Municipality the participation fee for the Inter-laboratory Proficiency Testing Program having the following details:

PTP No.	PTP 164
Details	Determination of Acid Soluble Sulphate Content in Soil
Amount	Dhs 850

How to Pay:

EFT

Electronic Funds Transfer

Bank Name: Emirates Bank International PJSC
Branch: Dubai Main Branch, P.O. Box 2923 UAE
Account Name: Dubai Municipality – Revenue A/C
Account Number: 0022 – 107445 – 001
SWIFT Code: EBILAEAD

Credit Card

By visiting Dubai Central Laboratory
Department
Administration Building- DCLD counter –
ground floor

Cheque

Please address the cheque to Dubai Municipality
and submit it by hand to DCLD counter.

Note:

- You are kindly requested to pay the amount within one month from the date in which the result is posted on our website.
- All sending and receiving bank charges must be included in the payment to ensure the full invoice amount is received.
- Please make sure that the payment is referring to DAC Accreditation Fees Alies No. 631 regardless of the payment method used.
- After payment please submit a copy of the receipt to Dubai Accreditation Department (Aisha Al Ali in DCLD administration building- 2nd floor- DAC Director Secretary and Technical Support Office.

Best Regard.


AMINA A. MOHAMMED
DIRECTOR OF DUBAI ACCREDITATION DEPARTMENT

Cc:

- Finance Cashier- DCLD
- Planning and Development Office- DAC

رؤيتنا: بناء مدينة متميزة تتوفر فيها رفاهية العيش ومقومات النجاح.
Our Vision : To create an excellent city that provides the essence of success and comfort of living.

DUBAI ACCREDITATION DEPARTMENT

REPORT ON 164th LABORATORY PROFICIENCY TESTING DETERMINATION OF ACID SOLUBLE SULPHATE CONTENT IN SOIL

Date: 11 August 2008

1. INTRODUCTION

This document presents the results of the 164th inter-laboratory proficiency-testing program conducted during the month of July involving the determination **Acid soluble Sulphate in Soil** with twenty six 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:

Twenty Three private laboratories and three governmental laboratories (fourteen of them are accredited by DAC for construction materials testing) participated in this program.

2.3 Samples Tested:

One (1) soil sample of approximately 1 Kg was distributed to all participating laboratories.

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. For this particular program participating Laboratories are requested to contact Eng. Raniah Ed-Dili (Tel No.: 302 7069) to know their code number.

DUBAI ACCREDITATION DEPARTMENT

4. TEST METHOD

Instructions were given to the participants to test the samples as per: (BS 1377:1990 Part 3 Amd 9028.1996 Cl.5.2).

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. 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
% Acid Soluble Sulphate	Lab 6, 14, 20 and 23

7. CONCLUSION AND RECOMMENDATIONS

The test results provided by the above mentioned laboratories are outside the Z - score limits of ± 3 .

8. APPENDICES

8.1 Appendix A: Raw Data

8.2 Appendix B: Calculation of z-scores and other statistics

8.3 Appendix C: Charts

Acid Soluble Sulphate Content in Soil

Appendix A: Raw Data

Lab #	Results
Lab 1	0.10
Lab 2	0.09
Lab 3	0.10
Lab 4	0.10
Lab 5	0.09
Lab 6	0.04
Lab 7	0.10
Lab 8	0.10
Lab 9	0.10
Lab 10	0.10
Lab 11	0.09
Lab 12	0.10
Lab 13	0.08
Lab 14	0.01
Lab 15	0.10
Lab 16	0.10
Lab 17	0.10
Lab 18	0.10
Lab 19	0.10
Lab 20	0.03
Lab 21	0.11
Lab 22	0.10
Lab 23	0.04
Lab 24	0.10
Lab 25	0.12

Acid Soluble Sulphate Content in Soil

Appendix B: Calculation of z-scores and other statistics

Iteration	0		1		2		3		4		5		6		Z Score
$\delta = 1.5 s^*$	---		0.00		0.00		0.00		0.00		0.00		0.00		
$x^* - \delta$	---	$xi-x^*$	0.10	$(xi-x^*)^2$	0.10	$(xi-x^*)^2$	0.10	$(xi-x^*)^2$	0.10	$(xi-x^*)^2$	0.10	$(xi-x^*)^2$	0.10	$(xi-x^*)^2$	
$x^* + \delta$	---		0.10		0.10		0.10		0.10		0.10		0.10		
LAB 1	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 2	0.09	0.01	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-1.00
LAB 3	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 4	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 5	0.09	0.01	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-1.00
LAB 6	0.04	0.06	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-6.00
LAB 7	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 8	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 9	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 10	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 11	0.09	0.01	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-1.00
LAB 12	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 13	0.08	0.02	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-2.00
LAB 14	0.01	0.09	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-9.00
LAB 15	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 16	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 17	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 18	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 19	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 20	0.03	0.07	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-7.00
LAB 21	0.11	0.01	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	1.00
LAB 22	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 23	0.04	0.06	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	-6.00
LAB 24	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.00
LAB 25	0.12	0.02	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	2.00

Average	0.09		0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	
SD	0.03		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
New x^*	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10	0.00	
New s^*	0.00		0.00		0.00		0.00		0.00		0.00		0.00		

N 25

Target value	0.10
Low Acceptable	0.10
High Acceptable	0.10
Acceptable Range	0.10

Acid Soluble Sulphate Content in Soil

Appendix C:Charts

