

PIANC

WG Report n° 144 - 2017

ABRIDGED FIELD VERSION



CLASSIFICATION OF SOILS AND ROCKS FOR THE MARITIME DREDGING PROCESS

The World Association for Waterborne Transport Infrastructure



PIANC REPORT N° 144

MARITIME NAVIGATION COMMISSION

CLASSIFICATION OF SOILS AND ROCKS FOR THE MARITIME DREDGING PROCESS

- ABRIDGED FIELD VERSION -

2017

PIANC has Technical Commissions concerned with inland waterways and ports (InCom), coastal and ocean waterways (including ports and harbours) (MarCom), environmental aspects (EnviCom) and sport and pleasure navigation (RecCom).

This report has been produced by an international Working Group convened by the Maritime Navigation Commission (MarCom). Members of the Working Group represent several countries and are acknowledged experts in their profession.

The objective of this report is to provide information and recommendations on good practice. Conformity is not obligatory and engineering judgement should be used in its application, especially in special circumstances. This report should be seen as an expert guidance and state-of-the-art on this particular subject. PIANC disclaims all responsibility in the event that this report should be presented as an official standard.

PIANC Secrétariat Général Boulevard du Roi Albert II 20, B 3 B-1000 Bruxelles Belgique

http://www.pianc.org

VAT BE 408-287-945

ISBN 978-2-87223-247-5

© All rights reserved

TABLE OF CONTENTS

Part 1:	Introduction and Outline of the Main Report	
1.1	Context	
1.2	Purpose of the Field Document	
1.3	Definitions	
1.4	Description, Testing and Classification of Soils and Rocks	
1.5	Site and Ground Investigation	4
1.6 1.7	Disclaimer	
Part 2:	Classification and Description	
2.1	Soils	
2.1.1	General Basis of Classification	
2.1.2	Parameters for Classification	
2.1.3	Soil Description	
2.1.4	Laboratory Testing	
2.2	Rocks	
2.2.1	General Basis of Classification	
2.2.2	Rock Material Classification	
2.2.3	Classification of Rock Mass	
2.2.4	Rock Description	
2.3	Intermediate Material	
References		. 24
LIST OF F	IGURES	
Figure 2.1: Cor	mparison of PIANC and selected national classification systems	. 11
Figure 2.2: Log	ging pro forma for the field identification of soils for the maritime dredging	40
process	Imples of RQD and FI determinations on rock core.	.12
rigure 2.3. Exa	Imples of RQD and Fi determinations on rock core.	. 10
LIST OF T	ABLES	
Table 1.1: Mate	erial properties of importance for various dredging processes	5
Table 2.1: Classification, identification and description of soils for dredging purposes		.10
Table 2.2: In-situ and laboratory testing of soils for dredging purposes		
Table 2.3(a): Descriptive entries for the engineering geological description of rock material		.19
Table 2.3(b): C	classification of bedded rocks (top left) and aid to identification of igneous and	
	ocks (bottom left) for engineering purposes. Right: engineering classification of	
	K	
	tu and laboratory testing procedures of rocks for dredging purposes	. 21
	ge of laboratory and field test values for soils, intermediate material and rocks	20
and Coffey Ged	otechnics appraisal of cementation grade (based on UCS)	. 22