

DIN EN 16907-7:2021-09 (E)

Earthworks - Part 7: Hydraulic placement of extractive waste

Contents	Page
European foreword.....	4
Introduction	5
1 Scope	7
2 Normative references	8
3 Terms and definitions	9
4 Abbreviations	15
5 Development of hydraulic placement projects	15
6 Mine Waste Facility Characterization.....	17
7 Site and material characterization	17
7.1 General.....	17
7.2 Stages of the characterization process.....	18
7.3 Geotechnical characterization.....	20
7.4 Geochemical characterization.....	23
8 Extractive Waste Management Plan.....	28
9 Mine Waste Facility design, construction, operation and closure.....	28
9.1 Design objectives.....	28
9.2 Site selection	29
9.3 Design elements.....	31
9.4 Design parameters.....	32
9.5 Risk management.....	32
9.6 Selection of confining embankment section	32
9.7 Construction of confining embankments	34
9.8 Earth-structure design considerations	36
9.9 Seepage management considerations	36
9.10 Design of hydraulic deposition systems	37
9.11 Water management	39
9.12 Operation, Maintenance and Surveillance (OMS) Manual.....	41
9.13 Emergency planning	42
9.14 Closure	42
10 Construction quality control.....	44
10.1 General.....	44
10.2 Confining embankment Construction Quality Assurance (CQA)	44
10.3 Disposal quality control.....	45
11 Instrumentation and monitoring	45
11.1 General.....	45
11.2 Performance monitoring.....	47
12 Inspection regimes	48
12.1 General.....	48
12.2 Competence	49
12.3 Background data for inspection and reporting.....	49
12.4 Technical inspections	49
12.5 Independent inspection regimes.....	52

Annex A (informative)	Non-standardized geotechnical tests on hydraulic fill	54
Annex B (informative)	MWF phases.....	71
Annex C (informative)	Procedures for the construction of a MWF embankment.....	73
Annex D (informative)	Earth-structure design considerations	74
Annex E (informative)	Water reclaim options	78
Annex F (informative)	Contents of typical OMS manual.....	80
Annex G (informative)	Confining embankment CQA - Recommended testing frequency.....	81
Annex H (informative)	CQA monitoring of hydraulic fill deposits	82
Annex I (informative)	Instrumentation for a MWF	84
Annex J (informative)	Technical inspection frequency for a MWF.....	87
Annex K (informative)	Daily technical inspections.....	88
Annex L (informative)	Weekly technical inspections.....	92
Annex M (informative)	Programme for technical inspection and reporting	93
Annex N (informative)	Contents of a technical inspection report	94
Bibliography		96