

ISO 13501:2011-06 (E)

Petroleum and natural gas industries - Drilling fluids - Processing equipment evaluation

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms, definitions, symbols and abbreviated terms	1
3.1	Terms and definitions	1
3.2	Symbols and abbreviated terms	11
4	Requirements	13
5	System performance of drilled-solids removal	13
5.1	Principle	13
5.2	Apparatus	13
5.3	Sampling	14
5.4	Procedure	15
6	Rigsite evaluation of drilled-solids management equipment	18
6.1	Principle	18
6.2	Application	18
6.3	Sampling of streams for capture analysis	19
6.4	Determination of mass fraction (percent) solids	19
6.5	Calculation of capture	20
6.6	Interpretation of results	20
6.7	Procedure for characterizing removed solids	21
6.8	Calculation of mass fraction (percent) of low-gravity solids	21
6.9	Particle size assessment on removed solids	21
6.10	Economics	22
7	Practical operational guidelines	22
7.1	Principle	22
7.2	Apparatus	22
7.3	Procedure for design and operation	23
7.4	Design of shale shakers	26
7.5	Operation of shale shakers	27
7.6	Design of degassers	27
7.7	Operation of degassers	28
7.8	Design of desanders and desilters	28
7.9	Design of mud cleaners	29
7.10	Design of centrifuges	30
7.11	Use of addition sections	30
7.12	Use of drilling fluid mixing and blending equipment	30
7.13	Use of suction section	31
7.14	Use of discharge section	31
8	Conductance of shale shaker screens	31
8.1	Principle	31
8.2	Principle of conductance	31

8.3	Apparatus for measurement of conductance	33
8.4	Procedure for calibrating fluid	34
8.5	Procedure for flow test	34
8.6	Procedure for measuring pressure drop	34
8.7	Procedure for conductance test	35
8.8	Calculation of conductance	35
9	Shale shaker screen designation	37
9.1	Principle	37
9.2	Apparatus	38
9.3	Preparation of aluminium oxide test media	40
9.4	Preparation of test screen	42
9.5	Test procedure	42
9.6	Calculation of D100 separation for test screen cloth	43
10	Non-blanked area of shale shaker screen panel	46
10.1	Principle	46
10.2	Apparatus	47
10.3	Procedure for pretensioned or perforated panel-type screens	47
10.4	Calculation for pretensioned or perforated panel-type screens	47
10.5	Procedure for open-hook strip panels	47
10.6	Calculation for open-hook strip panels	47
10.7	Example calculation of total non-blanked area for a panel-mount screen	48
11	Shale shaker screen labelling	49
11.1	API screen designation	49
11.2	Label and tag format	51
11.3	API screen designation label examples	52
11.4	Other screen label and tags	54
	Annex A (informative) Derivation of capture equation	55
	Annex B (informative) Finder's method	57
	Bibliography	60