



交

HJ 682 2019

HJ 682-2014

**Terms of risk control and remediation of soil contamination of land for
construction**

两去

两

2019-12-5 去

2019-12-5

生 态 环 境 部

.....

1	回.....	1
2	1
A	16
B	20

剂

司 交 会 交 会 两 会
删 会
会
但两 处
两 司
A B 两 两
去 2014 两 严
1. 两
2. 删
3.
4.
HJ 682-2014
删
子
2019 12 5
2019 12 5

1

会

2

2.1

2.1.1

land for construction

之

于

内

2.1.2

risk control and remediation of soil contamination

会

会

会 司

2.1.3

soil

2.1.4

groundwater

2.1.5

surface water

2.1.6

outdoor air

2.1.7

indoor air

2.2

2.2.1

contaminant of concern

会

2.2.2

target contaminant

交

2.2.3

低应 on-site residual material

严

子

2.2.4

volatile organic compounds, VOCs

50 260 °C 20 °C 1

133.32Pa

史

2.2.5

semivolatile organic compounds, SVOCs

260 400 °C 20 °C 1

1.33×10^{-6}

1.33×10^2 Pa

史

2.2.6

non-aqueous phase liquid, NAPL

子

史

2.2.7

dense non-aqueous phase liquid, DNAPL

1.0

TCE

TCA

PCE

2.2.8

light non-aqueous phase liquid, LNAPL

1.0

2.2.9

underground storage tank, UST

处

90%

90%

2.2.10

aboveground storage tank, AST

处

90% 90%

2.2.11

soil texture

2.2.12

pH soil pH

2.2.13

soil density

soil bulk density

2.2.14

soil porosity

2.2.15

soil organic matter

史

史

两

soil organic carbon

2.2.16

soil water content

2.2.17

cation exchange capacity, CEC

回

2.2.18

stratigraphic structure

严

参

2.2.19

surface soil

回

两 0 0.5 m

严

交

反

估

2.2.20

subsurface soil

回 戸

2.2.21

hydrogeological condition

2.2.22

groundwater plume

2.2.23

buried depth of groundwater table

2.2.24

hydraulic gradient

2.2.25

permeability coefficient

2.2.26

unconfined aquifer layer; phreatic stratum

2.2.27

aquifer

2.2.28

aquitard

2.2.29

permeable layer

2.2.30

unsaturated zone

vadose zone; aeration zone

2.2.31

saturated zone

2.2.32

phreatic water

2.2.33

confined water; artesian water

与

2.3

2.3.1

conceptual site model

史

交

2.3.2

investigation on soil contamination

回

2.3.3

site history investigation

参

去

2.3.4

site-specific parameter

2.3.5

on-site rapid monitoring

2.3.6

site environmental monitoring

参

2.3.7

monitoring for investigation on soil contamination

会

- 回
- 2.3.8 monitoring for remediation of land for construction
- 2.3.9 monitoring for assessment of remediation effect
司
- 2.3.10 monitoring for retrospective assessment of land for construction
会司 回 两 司
义
- 2.3.11 systematic sampling
于
- 2.3.12 systematic random sampling
- 2.3.13 judgemental sampling
- 2.3.14 stratified sampling
- 2.3.15 reference sampling point
处
- 2.3.16 别 quality assurance and quality control, QA/QC
两
删 两

删

2.4

2.4.1

carcinogenic risk

交

去

2.4.2

non-carcinogenic risk

交

2.4.3

health risk assessment of land for construction

交 严

会

交

2.4.4

ecological risk assessment for land for construction

会

2.4.5

hazard identification

史

交

2.4.6

exposure assessment

但

交

交

交

交

2.4.7

receptor

交

义

交

子

2.4.8

sensitive receptor

子

交

去

交

交

0 6

2.4.9

	critical receptor				
	会				交
2.4.10	exposure scenario				
	去				
2.4.11	exposure pathway				
					交
2.4.12	exposure route				
					司 交 交
2.4.13	exposure assessment model				
	交		会		子
2.4.14	contaminant transport and fate model				
					两 参
			回 子		
2.4.15	exposure dose				
	交		反		
2.4.16	exposure parameter; exposure factor				
	交 两			交	交
	交				
2.4.17	exposure duration				
	交				义
2.4.18	exposure frequency				
	交				
2.4.19	toxicity assessment				
	但				交

2.4.29

别 risk intervention values for soil contamination of land for
construction 交

2.4.30

environmental background values of soil

史 子

2.5

2.5.1

site cleanup and remediation

册

2.5.2

soil remediation

子 两

2.5.3

in-situ remediation

去

2.5.4

ex-situ remediation

去

2.5.5

target for remediation

会 交

2.5.6

feasibility study for remediation

会

2.5.7

remediation plan

子
回

史

会 册

2.5.8

operation and maintenance of remediation system

入

2.5.9

site remediation supervision

史

2.5.10

assessment of remediation effect

史 会

2.5.11

别 别 institutional control

删
删
删

删

交

2.5.12

别 engineering control

交

删

2.5.13

remediation technology

子 子

参

2.5.14

screening of remediation technology

史

史

交

史

史

2.5.15

physical remediation

去 去 两 两
去

2.5.16

chemical remediation

子 子 删 去 史
史

2.5.17

biological remediation

两 严
两 义
bioremediation
但

2.5.18

- / excavation and disposal/treatment

交

2.5.19

- pump and treatment

NAPL

2.5.20

electrokinetic separation

去 但

2.5.21

soil vapor extraction, SVE

去 去 去

2.5.22

thermal treatment

于 去 去 150
540 去 去

2.5.23

air stripping

去

去

2.5.24

air sparging

去

去

去

去

2.5.25

biosparging

入

去

2.5.26

circulating well

去

具

去

2.5.27

landfill

去

子

子

参

2.5.28

2.5.32

soil flushing

子

2.5.33

- chemical oxidation and reduction

删
两

史

2.5.34

supercritical water oxidation, SCWO

374 °C P 22.1 MPa
CO₂ H₂O N₂

2.5.35

/ solidification/stabilization

子删

史

子

子

子

2.5.36

bioventing

2.5.37

bioslurping

与 删

去

2.5.38

参 bioreactor

删 但两

2.5.39

参 permeable reactive barrier, PRB

子 但 境
 2.5.40 natural attenuation, NA
 去 子 子 去 子
 2.5.41 landfarming
 去
 2.5.42 composting
 入 史 删
 司 pH
 2.5.43 biopiling
 删 但 入 两
 CO₂
 2.5.44 phytoremediation
 史
 2.5.45

A

()

A

aboveground storage tank	2.2.10	aquitard	2.2.28
acceptable risk level	2.4.25	archive of site	2.5.45
*aeration zone	2.2.30	artesian water	2.2.33
air sparging	2.5.24	assessment of remediation effect	2.5.10 会
air stripping	2.5.23		
aquifer	2.2.27		

B

biological remediation	2.5.17	biosparging	2.5.25
biopiling	2.5.43	bioventing	2.5.36
bioreactor	2.5.38	buried depth of groundwater table	2.2.23
*bioremediation	2.5.17		
bioslurping	2.5.37		

C

cancer slope factor	2.4.20	composting	2.5.42
carcinogenic risk	2.4.1	conceptual site model	2.3.1
cation exchange capacity	于 2.2.17	confined water	2.2.33
chemical oxidation and reduction	子 - 2.5.33	contaminant of concern	2.2.1
chemical remediation	子 2.5.16	contaminant transport and fate model	2.4.14
circulating well	2.5.26	critical receptor	2.4.9

D

dense non-aqueous phase liquid
2.2.7

E

ecological risk assessment for land for construction	会 2.4.4	environmental background values of soil	2.4.30
electrokinetic separation	2.5.20		
engineering control	删 2.5.12		

excavation and disposal/treatment - /
2.5.18
exposure assessment model 会 2.4.13
exposure assessment 会 2.4.6
exposure dose 2.4.15
exposure factor 2.4.16

monitoring for assessment of remediation effect
 会 2.3.9
 monitoring for investigation on soil contamination
 2.3.7
 monitoring for remediation of land for construction
 2.3.8

monitoring for retrospective assessment of land for
 construction 会 2.3.10
 multiphase extraction 处 2.5.30

N

natural attenuation 2.5.40
 non-aqueous phase liquid 2.2.6

non-carcinogenic risk 2.4.2

O

on-site rapid monitoring 2.3.5
 on-site residual material 2.2.3

operation and maintenance of remediation system
 2.5.8
 outdoor air 2.1.6

P

permeability coefficient 2.2.25
 permeable layer 2.2.29
 permeable reactive barrier 境 2.5.39
 phreatic stratum 2.2.26
 phreatic water 2.2.32

physical remediation 2.5.15
 phytoremediation 2.5.44
 priority management site 2.5.46
 pump and treatment - 2.5.19

Q

quality assurance and quality control
 删 2.3.16

R

receptor 2.4.7
 *reference concentration 2.4.22
 reference dose 2.4.22
 reference sampling point 2.3.15
 remediation plan 2.5.7
 remediation technology 2.5.13
 risk characterization 2.4.24

risk control and remediation of soil contamination
 2.1.2
 risk intervention values for soil contamination of land
 for construction 删
 2.4.29
 risk screening values for soil contamination of land
 for construction
 2.4.23

S

saturated zone 2.2.31
screening of remediation technology
2.5.14
semivolatile organic compounds 去 史
2.2.5
sensitive receptor 2.4.8
site cleanup and remediation

B

()

B

去 史 semivolatile organic
 compounds 2.2.5
 * vadose zone; aeration zone 2.2.30
 saturated zone 2.2.31
 exposure parameter; exposure factor 2.4.16
 exposure route 2.4.12
 exposure dose 2.4.15
 exposure frequency 2.4.18

会 exposure assessment 2.4.6
 会 exposure assessment model 2.4.13
 exposure duration 2.4.17
 exposure scenario 2.4.10
 exposure pathway 2.4.11
 surface soil 2.2.19
 uncertainty analysis 2.4.28

C

reference dose 2.4.22
 * reference concentration 2.4.22
 supercritical water oxidation 2.5.34

confined water; artesian water 2.2.33
 - pump and treatment 2.5.19

D

light non-aqueous phase liquid
 2.2.8
 surface water 2.1.5
 stratigraphic structure 2.2.18
 archive of site 2.5.45
 会 monitoring for retrospective
 assessment of land for construction 2.3.10
 会 ecological risk assessment for
 land for construction 2.4.4
 monitoring for remediation of
 land for construction 2.3.8
 on-site residual material 2.2.3
 conceptual site model 2.3.1
 site environmental monitoring 2.3.6

site history investigation 2.3.3
 site-specific parameter 2.3.4
 site cleanup and remediation 2.5.1
 aboveground storage tank 2.2.10
 underground storage tank 2.2.9
 groundwater 2.1.4
 buried depth of groundwater table 2.2.23
 groundwater plume 2.2.22
 electrokinetic separation 2.5.20
 会 toxicity assessment 2.4.19
 composting 2.5.42
 reference sampling point 2.3.15
 处 multiphase extraction 2.5.30

F

unsaturated zone 2.2.30
 non-aqueous phase liquid 2.2.6
 non-carcinogenic risk 2.4.2

stratified sampling 2.3.14
 incineration 2.5.28
 risk characterization 2.4.24

G

2.2.7	dense non-aqueous phase liquid	/	solidification/stabilization 2.5.35
	aquitard 2.2.28		critical receptor 2.4.9
删	engineering control 2.5.12		contaminant of concern 2.2.1

H

	aquifer 2.2.27	去	史	volatile organic compounds 2.2.4
子	chemical remediation 2.5.16			
子	- chemical oxidation and reduction			
2.5.33				

J

	land for construction 2.1.1			risk screening values
	会 health risk assessment of			for soil contamination of land for construction 2.4.23
	land for construction 2.4.3			
	删 risk intervention			
	values for soil contamination of land for construction			
2.4.29				

K

	acceptable risk level 2.4.25		air stripping 2.5.23
境	permeable reactive barrier 2.5.39		air sparging 2.5.24

M

	sensitive receptor 2.4.8		target contaminant 2.2.2
--	--------------------------	--	--------------------------

Q

	phreatic water 2.2.32		unconfined aquifer layer; phreatic stratum
			2.2.26

R

	thermal treatment 2.5.22		solvent extraction 2.5.29
--	--------------------------	--	---------------------------

S

permeability coefficient 2.2.25
bioslurping 2.5.37
biopiling 2.5.43
 bioreactor 2.5.38
biosparging 2.5.25
bioventing 2.5.36

biological remediation; bioremediation
2.5.17
indoor air 2.1.7
outdoor air 2.1.6
receptor 2.4.7
hydraulic gradient 2.2.24
hydrogeological condition 2.2.21

T

landfill 2.5.27
 permeable layer 2.2.29
landfarming 2.5.41
pH soil pH 2.2.12
soil 2.1.3
农 soil flushing 2.5.32
 soil water content 2.2.16
 environmental background values
of soil 2.4.30
 soil porosity 2.2.14
soil washing 2.5.31
soil density 2.2.13

soil vapor extraction 2.5.21
* soil bulk density 2.2.13
 risk control and
remediation of soil contamination 2.1.2
 investigation on soil
contamination 2.3.2
 monitoring for investigation
on soil contamination 2.3.7
soil remediation 2.5.2
* soil organic carbon 2.2.15
soil organic matter 2.2.15
soil texture 2.2.11

W

- / excavation and disposal/treatment
2.5.18
hazard quotient 2.4.26
hazard identification 2.4.5

hazard index 2.4.27
contaminant transport and fate
model 2.4.14
physical remediation 2.5.15

X

inhalation unit risk 2.4.21
 systematic sampling 2.3.11
 systematic random sampling
2.3.12
 on-site rapid monitoring 2.3.5
remediation plan 2.5.7
 site remediation supervision 2.5.9
remediation technology 2.5.13
 screening of remediation technologies
2.5.14

feasibility study for remediation
2.5.6
target for remediation 2.5.5
 operation and maintenance of
remediation system 2.5.8
 会 assessment of remediation effect
2.5.10
 会 monitoring for assessment of
remediation effect 2.3.9
circulating well 2.5.26

Y

subsurface soil 2.2.20
于 cation exchange capacity 2.2.17
ex-situ remediation 2.5.4

priority management site 2.5.46
in-situ remediation 2.5.3

Z

phytoremediation 2.5.44
删 删 institutional control 2.5.11
删 quality assurance and
quality control 2.3.16

carcinogenic risk 2.4.1
cancer slope factor 2.4.20
judgemental sampling 2.3.13
natural attenuation 2.5.40