

“ ”

“ + ”

58

6100 18279.67m² 27.42 11126.11m²

1300

3000

2021 5 28

2105-450109-04-01-581249 2

682

2018 12 29

2021

“ 13 18 135 ‘

10 1 15 1000 ”

2021 6 21

1

108.82858,22.62584

”

15m

0.035%

2017 10 1 2017 HJ 2.1-2016

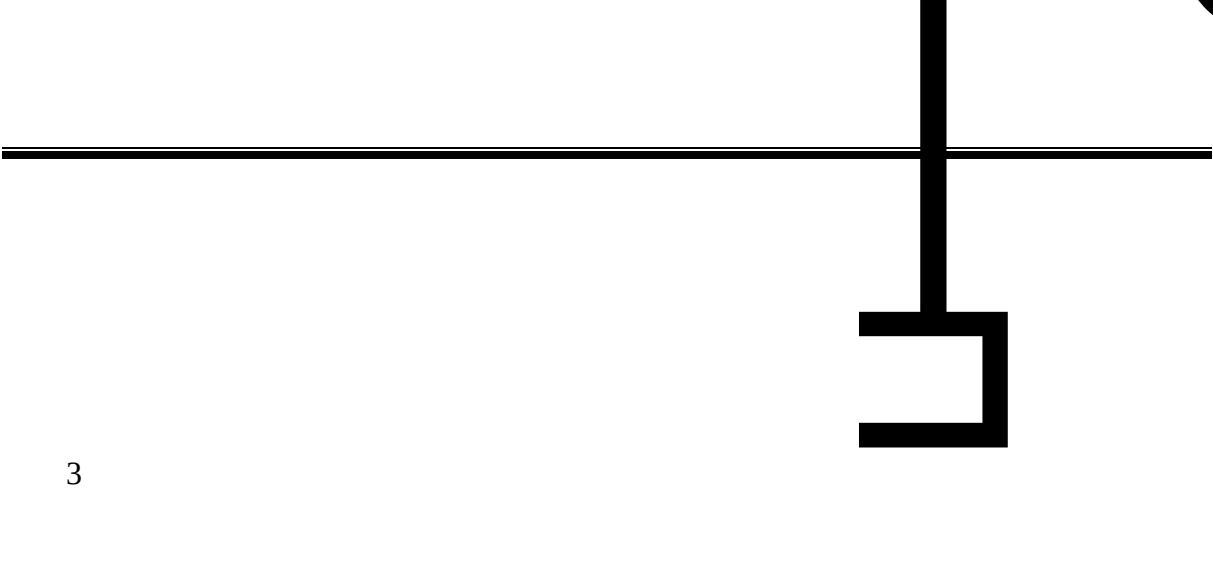
HJ 2.1-2016

2021 6 21
2021 7 1 ~7 7

1 2019
“ ” 26 “ ”

2
1

[2020]42



3

7

3.8km

2010 12 22

4 “ ”

“ ”

5

1

2

3

4

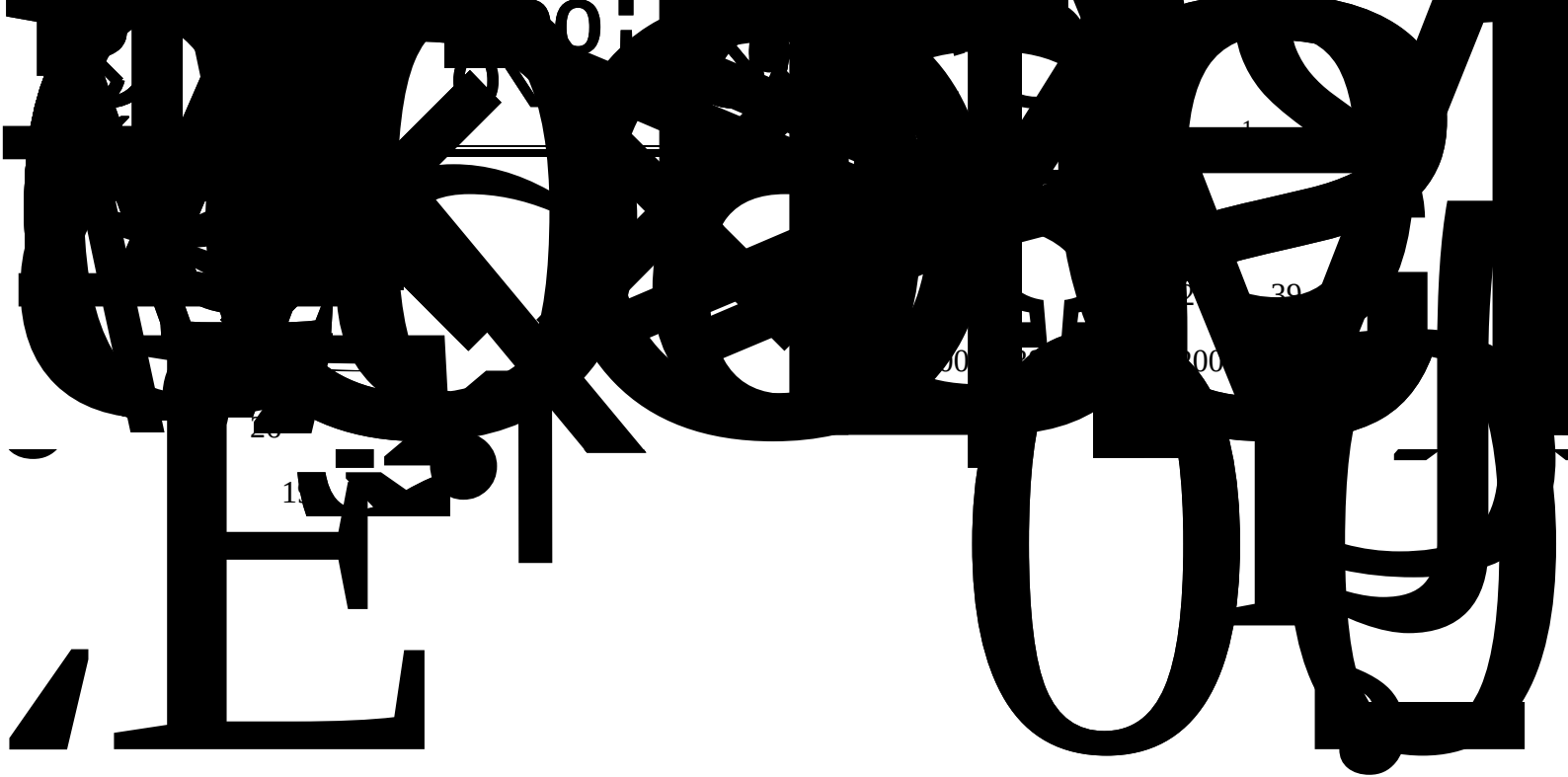
5

1	.....	1
1.1	.....	1
1.2	.....	5
1.3	.....	7
1.4	.....	13
1.5	.....	21
2		

6.4	.....	133
6.5	.....	134
7	.....	135
7.1	.....	135
7.2	.....	139
7.3	.....	141
7.4	.....	146
7.5	.....	148
8	.....	149
8.1	.....	149
8.2	.....	149
8.3	.....	150
8.4	.....	152
8.5	.....	155
8.6	.....	155
8.7	.....	
8.8	.....	156
8.9	.....	156
8.10	.....	156

1		2014		2015	1	1		
2			2018	12	29		2018	12
29								
3			2017	6	27		2018	1 1
4								
			2018	10	26		2018	10
26								
5					2020	4	29	2020
9	1							
6				2018	12	29		2018
12	29							
7			2010	12	25		2011	3 1
8		2016	7					
9			2019	8	26		2020	1 1
10								
			2016	5	16		2016	7
1								
11			2018	1	1			
12			2007	10	28		2008	4 1
13								
			2011	2	16		2011	12 1

14				2021	5	1		
15				2015	4	24		
16				2012	12	28		
17				2013	6	29		
1				2017		2017	10	1
2				2021				
16	2021	1	1					
3				2019	1	1		
4				2015	6	5		
5							2012	98
6							2014	56
7							2011	35
8								2012
77								
9				2021				
					15	2021	1	1
10								
	2016	150						
11								



7

2012 103

8

<

>

2016 19

9

<

2019

>

16

1.2 -1

				√			√		√
				√			√		√
				√			√		√
				√			√		√
					√	√			√
				√		√			√
				√		√			√
				√		√			√
				√		√			√

1.2-2

	pH									
	13									
	K ⁺	Na ⁺	Ca ²⁺	Mg ²⁺	CO ₃ ²⁻	HCO ₃ ⁻	Cl ⁻	COD NH ₃ -N		
	20									
	O ₃	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	CO	TSP	NH ₃	H ₂ S	PM ₁₀
	L _{Aeq}							L _{Aeq}		

2-1-18   2008 ———— “2-1
”
2010 2-1

1.3-1

1.3-1

1		“2-1
2		GB3095-2012 2018 9 1
3		GB3838-2002
4		GB/T14848-2017
5		GB3096-2008 3
	4a	
6		
7		
8		
9		

1

GB 3095-2012 2018

NO₃ H₂S

-

HJ 2.2-2018

1.3-2

1	SO ₂		60μg/m ³	3095-2012 2018 GB
		24	150μg/m ³	
		1	500μg/m ³	
2	NO ₂		40μg/m ³	
		24	80μg/m ³	
		1	200μg/m ³	
3	TSP		200μg/m ³	
		24	300μg/m ³	
4	PM ₁₀		70μg/m ³	
		24	150μg/m ³	
5	PM _{2.5}		35μg/m ³	
		24	75μg/m ³	
6	O ₃	8	160μg/m ³	
		24	200μg/m ³	
7	CO	24	4mg/m ³	
		1	10mg/m ³	
8	NH ₃		0.2mg/m ³	HJ 2.2-2018 - D
9	H ₂ S		0.01mg/m ³	

2

GB 3838-2002

1.3-3

1.3-3

mg/L

1		≤1	≤2
2	pH	6	9
3		≥2	
4		≤15	

11		≤ 1.0
12	/L	≤ 40000

3

GB/T14848-2017

1.3-4

1.3-4

mg/L pH

1	pH	$6.5 \leq \text{pH} \leq 8.5$	11	HCO_3^-	/
2		≤ 450	12		≤ 0.005
3		≤ 3	13		≤ 1.0
4		≤ 0.50	14		/
5		≤ 250	15		≤ 200
6		≤ 20.0	16		/
7		≤ 1.00	17		/
8	Cr	≤ 0.05	18	Fe	≤ 0.3
9	Cl^-	≤ 250	19	Mn	≤ 1.0
10	CO_3^{2-}	/	20		≤ 3 MPN/100ml

4

GB 3096-2008 2 3 4a

GB3096-2008 3

4a

GB3096-2008 2

1.3-5

1.3-5

(GB 3096-2008)

dB A

2	60	50
3	65	55
4a	70	60

1

GB16297-1996 2

1.3-6

1.3-6

2

mg/m³

1			0.40
2			0.12
3			1.0

GB13271-2014

2

8m

GB14554-93

1

2

GB18483-2001

2

1.3-7

2

mg/m³

1		50	
2		200	
3		20	

1.3-8

1		15m	4.9 kg/h	1.5 mg/m ³
2			0.33 kg/h	0.06 mg/m ³
3	()		/	20

1.3-9

()

mg/m ³	2.0		
%	60	75	85

2

GB13457-92

3

1.3-10

1.3-10

1		300	5.4	150	150
2	BOD ₅	250	4.5	110	110
3	COD _{Cr}	500	9.0	250	250
4		50	0.9	—	50
5		—	—	30	30
6		—	—	35	35
7		—	—	3	3
8	pH	6.0~8.8		/	—
9	m ³ /t	18.0		—	—

3

GB 12523-2011

1.3-11

1.3-11

Leq[dB(A)]

	70	55

GB 12348-2008 3

GB 12348-2008 4

13-12

1.3-12

dB A

	65	55	3
	70	55	4

4

GB

18599-2020

GB 18597-2001

[2013]36

(HJ2.2-2018) 5.3

A

AERSCREEN

1 $P_{\max}$ $D_{10\%}$

(HJ2.2-2018)

P

$$P_i = \frac{C_i}{C_{0i}} \times 100\%$$

 P_i _____ i

%

 C_i _____

i

1h

 $\mu\text{g}/\text{m}^3$
 C_{0i} _____ i
 $\mu\text{g}/\text{m}^3$ C_{0i}

GB3095-2012 1

SO₂ NO₂

GB3095-2012 1

PM₁₀

GB3095-2012

NH₃ H₂S

HJ2.2-2018

D

2

1.4-1

 $P_{\max}$ 10%

	Pmax<1%
--	---------

2

1.4-2

4

1.4-5

1.4-5

/	/	
	()	/
		40.4°C
		-2.1°C
	(m)	90
	/km	/
	/°	/

6

P_{max} D_{10%}1.4-6 P_{max} D_{10%}

1#	SO ₂	500		0.0003	0.0001	/
	NO ₂	200		6.6810	3.34	/
		450		1.0279	0.23	/
2#	NH ₃	200		0.4471	0.22	/
	H ₂ S	10		0.0033	0.03	/
3#	NH ₃	200		1.4028	0.70	/
	H ₂ S	10		0.0533	0.53	/
	NH ₃	200		2.0664	1.03	/
	H ₂ S	10		0.0209	0.21	/
	NH ₃	200				/
	H ₂ S	10		0.2953	2.95	/

P_{max}NH₃ P_{max}

	a

a“ ”

1.7-9

HJ 610-2016 A “N ” “98 ” “ 10
100 ”

1.5-9



2

5dB

200m

HJ 964

2018

A

18279.67m²2km²

HJ19-2011

1.5-10

	$\leq 2\text{km}^2$ 50km		
	$18279.67\text{m}^2 \leq 2\text{km}^2$		

200m

HJ169-2018

1

HJ169-2018

B

Q

Q

Q

$$Q=\sum q_i/Q_i$$

q_i —— t

Q_i —— t

Q 1

$Q \geq 1$ Q $1 \leq Q < 10$ $10 \leq Q < 100$ $Q \geq 100$

(HJ 169—2018) B

1.125t

0.4t

5t 2500t

$$Q=1.125/5+0.4/2500=0.225 \quad Q < 1 \quad \text{I}$$

2

HJ169-2018

1.5-11

1.5-11

	+			
				a
a				

1.5-12



1.5-12

HJ2.2-2018		NH ₃	
1%	P _{max}	4.28%	1%
	10%		
HJ 2.3-2018			

1.5-1

1.5-1

22.624897	108.494845	29900		35m
/	/	/	/	

1

2

κ



1573.20m² 7.8m

	A05		1		
	A06		1		,38 4
	A07		2		
	A08		1		
	A09		1		
	A10		1		
	A11		2		
	A12		1		
	A13		1		
+	B01		115		
			2		2.2KW
			2		
			2		3.7KW
			12		
			2		30°
		B	2		
	B02		1		
	B03		2		
	B04		1		
	B10		1		
	B11		1		80
	B12		3		L=6.5
	C01		0		10
	C02		1		

2.1-4

	t/a	/	
	20000	/	1300
	1.125	NaClO	
	120	CaO	
PAC	72		
PAM	12		
	0.5	R22	
	50		
	28 m ³ /a	/	/
	1000 kWh/a	/	/
	10.08 m ³ /a	CH4	

		pH 3~9	
R22	CHClF ₂	CAS 75-45-6 200	5000mg/kg
	CH ₄	CAS 74-82-8 25~30%	/
	/	70 70 100 8%~10%	/
	/	10~22	/

2.2-1



2.2-1

2.2-2

1

1

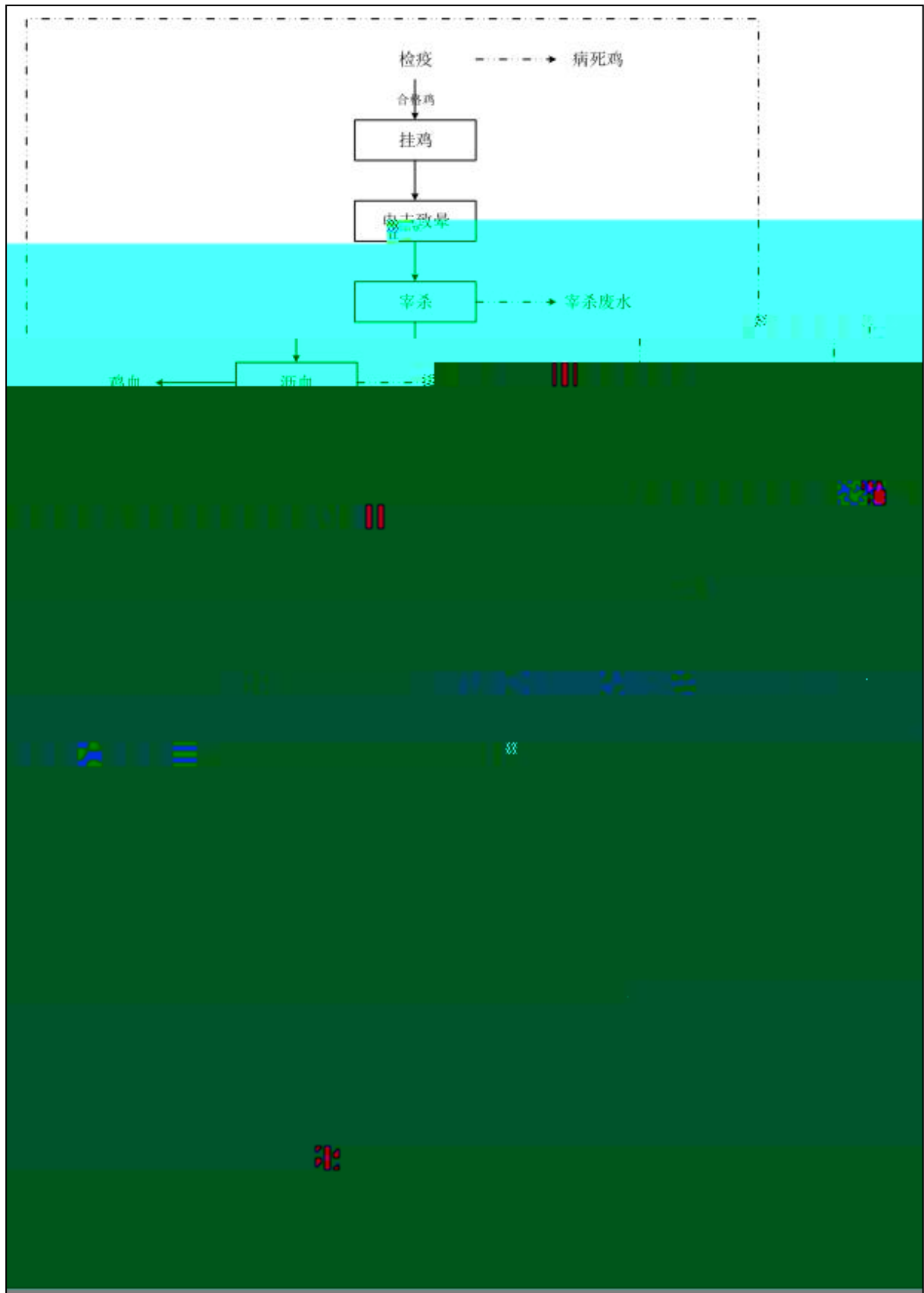
2~3

36~70V

2.5~3min

59-61

40-90s



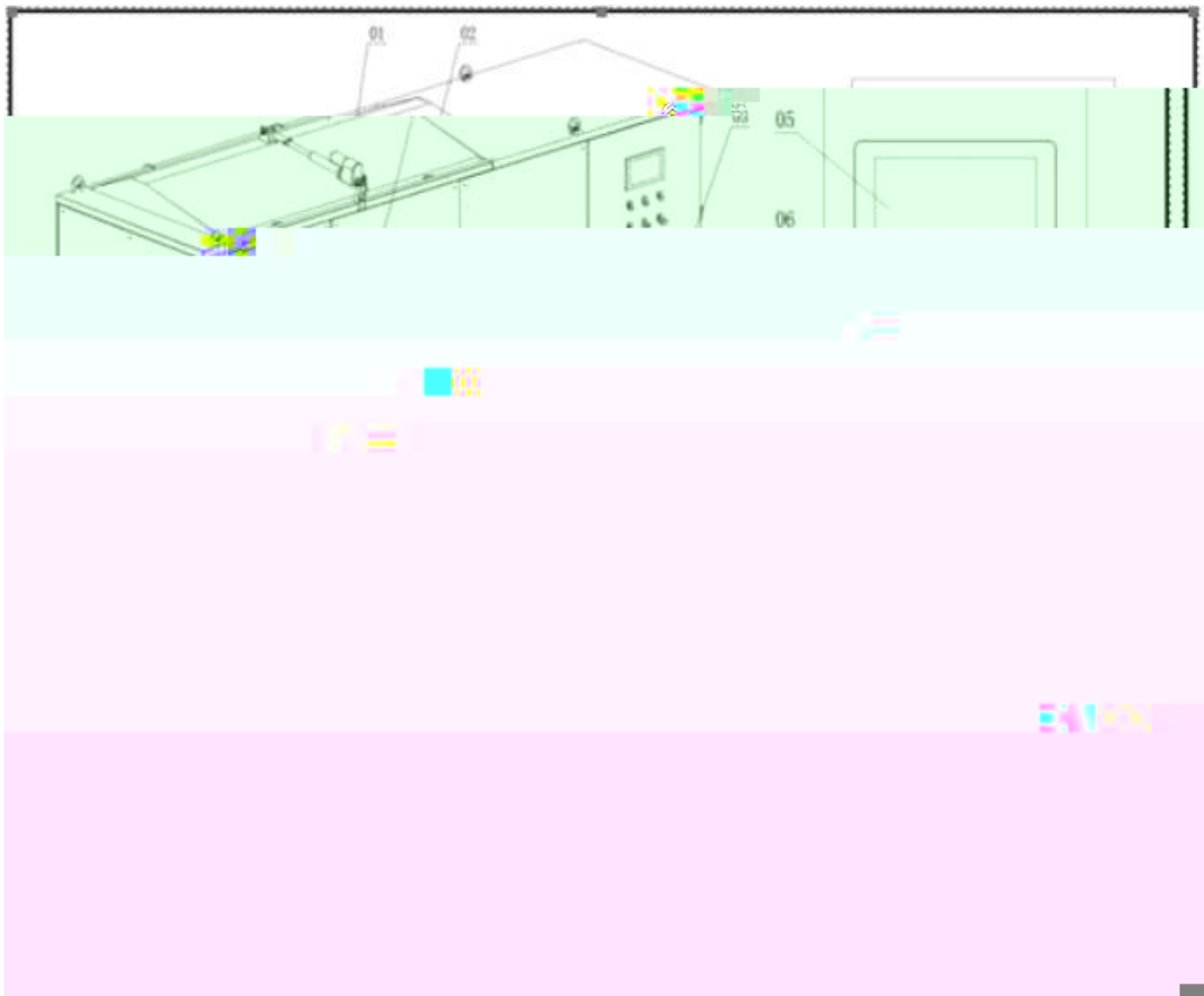
2.2-2

e

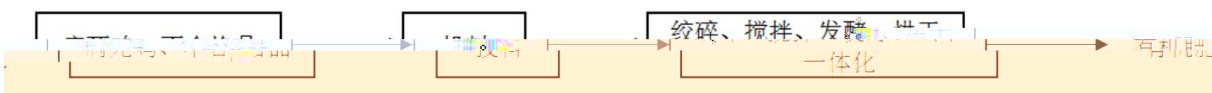
¢

2

2



2.2-3



2.2-4

1

2

150kg

10~20min

3

1

1

0.05~0.1m³0.07m³/m²11126.11m²778.83m³

2

12

20

50L/ ·d

1m³/d

80%

0.8m³/d

2.2-3

2.2-3

	0.8	350	0.280	200	0.160	250	0.200	30	0.024
	0.8	220	0.176	110	0.088	120	0.096	27	0.022

2

1

3

12

20

0.5kg/ ·d

10kg/d

5

1

2

2.2.1.4

690.496m³/d 248578.56m³/a

1

SS400mg/L 100mg/L COD_{Cr}300mg/L BOD₅250mg/L
 NH₃-N30mg/L

5

2.2.1.4

10.6m³/d 3816m³/aCOD_{Cr} BOD₅SS NH₃-N

—

2007

2.2-6

m ³ /a	COD _{Cr}		BOD ₅		SS		NH ₃ -N	
	mg/L	t/a	mg/L	t/a	mg/L	t/a	mg/L	t/a
3816	350	1.336	250	0.954	250	0.954	35	0.134
3816	220	0.840	190	0.725	120	0.458	30	0.114

GB18918-2002

A

1

0.5t/h

8h/d 360d/a

2880h

12 m³

HJ991-2018

HJ953-2018

$$V_{gy}=0.285Q_{net}+0.343$$

V_{gy}——Nm³/m³Nm³/kgQ_{net}——MJ/m³35.5MJ/Nm³10.461Nm³/m³

125.526

Nm³/a

HJ991-2018

$$E_{SO_2} = 2R \times S_t \times \left(1 - \frac{\eta_s}{100}\right) \times K \times 10^{-5}$$

E_{SO2}——

t

R——

m³S_t——mg/m³0.042mg/m³

η_s —— % 0%

K—— K=1

$$E_{NO_i} = \rho_{NO_x} \times Q \times \left(1 - \frac{\eta_{NO_i}}{100}\right) \times 10^{-9}$$

E_{NO_x} —— t

ρ_{NO_x} —— mg/m³ HJ 991

180mg/m³

Q—— m³

η_{NO_x} —— % 0%

$$E_j = R \times \beta_j \times \left(1 - \frac{\eta}{100}\right) \times 10^{-3}$$

E_j —— t

R—— t m³

β_j —— kg/t kg/ m³ HJ 953 2.86kg/ m³

η —— % 0%

125.526 Nm³/a SO₂

0.0000101t/a 0.0000035kg/h NO_x 0.226t/a 0.078kg/h

0.0343t/a 0.012kg/h 3400m³/h SO₂ NO_x

0.00103mg/m³ 23.075mg/m³ 3.505mg/m³ 8m

0.3m SO₂ NO_x

GB13271-2014 2

2

NH₃ H₂S

NH₃ H₂S

500

2020 7

2.2-8

2.2-9

2.2-8

500	500 / 1.38 /	
	1300 / 3.6 /	

2.2-9

			kg/h	kg/h
500	1.3 /	NH ₃	$4.73 \times 10^{-3} \sim 8.02 \times 10^{-3}$	6.05×10^{-3}
		H ₂ S	$4.47 \times 10^{-5} \sim 1.08 \times 10^{-4}$	5.63×10^{-5}

90%

1

85%

1 15m 0.8m

6500m³/h

10%

2.2-10 NH₃ H₂S

GB14554-93 2 15m

		(m ³ /h)	(mg/m ³)	t/a		%	(kg/h)	(mg/m ³)	t/a
	NH ₃	6500	2.7376	0.15374		85	0.00267	0.41063	0.02306
	H ₂ S		0.0255	0.00143			0.00002	0.00382	0.00021
	NH ₃	/	/	0.01708		0	0.00198	/	0.01708
	H ₂ S		/	0.00016			0.00002	/	0.00016

3

 NH_3 H_2S NH_3 H_2S

15000

		SO ₂	NO _x		CO	
g/L	12m ³ /kg	4.00	2.56	0.714	1.52	1.49
t/a	489600m ³ /a	0.194	0.124	0.035	0.074	0.072
kg/h	5100m ³ /h	2.024	1.295	0.361	0.769	0.754
mg/m ³	/	264.550	169.312	47.222	100.529	98.545
mg/m ³	/	550	240	120		

6

3

4h/d

175

360d

2.0kg/100

·d

3.50kg/d

1.26t/a

3%

0.105kg/d 0.0378t/a

2000m³/h

75%

4.375mg/m³1.094mg/m³

GB18483-2001

2

≤2.0mg/m³

0.026kg/d 0.009t/a

7

4

1

60~95dB A

2.2-14

		60~75		10~15	50~65
		70~80		10~20	60~70
		60~70		10~15	50~60
		70~80		10~15	60~70
		60~70		10~15	50~60
		70~80		10~15	60~70
		60~70		10~15	50~60
		60~70		10~15	50~60
		70~80		10~15	60~70
		80~90		10~20	65~75
		85~95		10~15	65~75
		65~75		10~20	55~65
		70~80		10~20	60~70
		65~75		10~20	55~65
		80~90		10~20	65~75
		60~75		10~20	55~65

2

60~75dB A

60~70dB A

75~80dB A

1

8

BOD₅162.8t/a

98%

226kg/d 81.4t/a

80%

22.6kg/d 8.14t/a

7

3~4

250kg

3

2

0.17t/a

8

1t/a

2021

HW08

900-214-08

“ ”

9

175

360

0.5kg/ ·d

87.5kg/d 31.5t/a

2.2-15

					t/a
					700
					680
					20
					18
					28.14
					0.17
					1
					31.5

1

50%

2.2-16

2

50%

		t/a		
		0.8m ³ /d		0.8m ³ /d
	COD _{Cr}	0.280kg/d		0.176kg/d
	BOD ₅	0.160kg/d		0.088kg/d
	SS	0.200kg/d		0.096kg/d
	NH ₃ -N	0.024kg/d		0.022kg/d
				0
		27.82t		0
		10kg/d		0

2.2-19

		t/a				
	SO ₂	0.0000101				0.0000101
	NO _x	0.226		+8m		0.226
		0.0343				0.0343
	NH ₃	0.15374			1 15m	0.02306
	H ₂ S	0.00143	0.8m			0.00021
	NH ₃	0.01708				0.01708
	H ₂ S	0.00016				0.00016
	NH ₃	0.4542			1 15m	0.0681
	H ₂ S	0.0176	0.4m			0.0026
	NH ₃	0.0505				0.0505
	H ₂ S	0.0020				0.0020
	SO ₂	0.194				0.194
	NO _x	0.124				0.124
		0.035				0.035
	CO	0.074				0.074
	HC	0.072				0.072
		0.0378				0.009



107°19'~109°38'

22°12'~24°2'

32

108°29'42.87"

22°37'33.01"

1

5

57.78%

4.6%

300m

600m

25°

40°

2.61%

300m

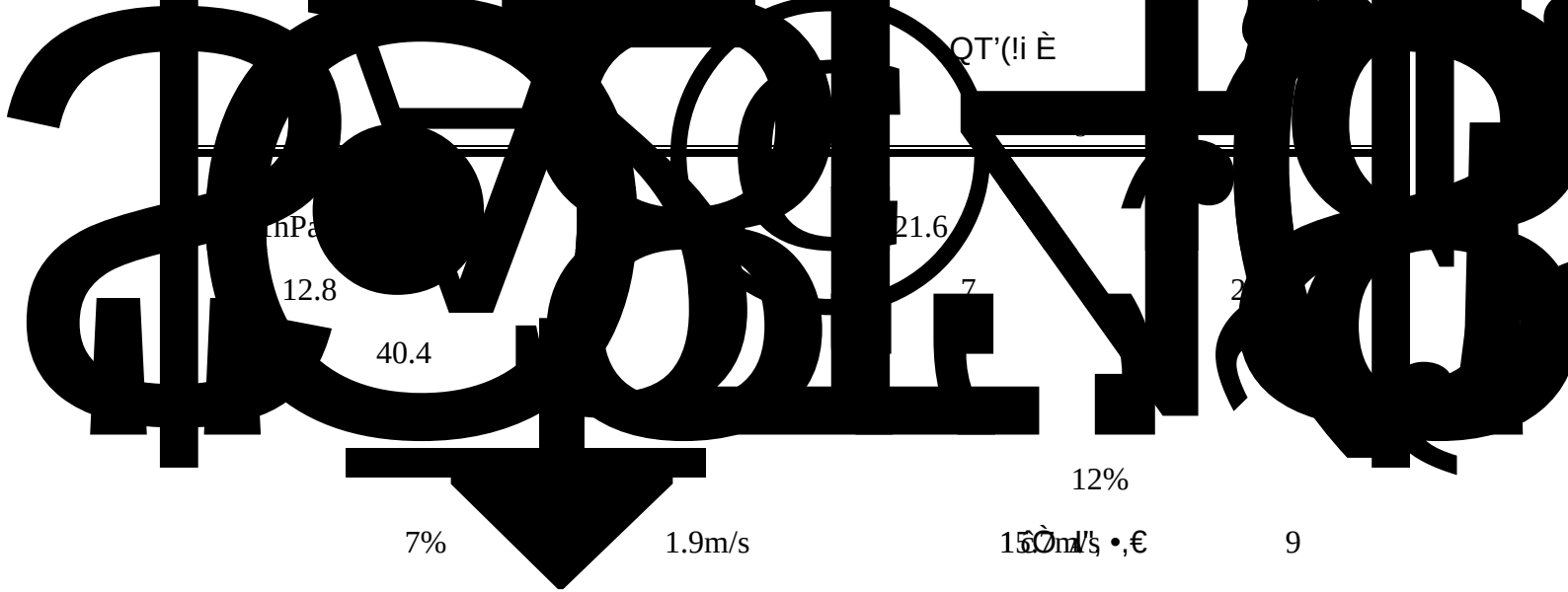
400m

à

120m

160m





3

3

1	3m	10.8 m ³ /s	55.55 km	1.11km ²	165.9m
---	----	------------------------	----------	---------------------	--------

600

3.8km

7

3.1-1

1.5-1

		3.8km	

HJ 2.2-2018

2020

2020

3.2-1

 $\mu\text{g}/\text{m}^3$ SO_2

8

60

13.33%

	HJ 533-2009	0.01mg/m ³
	2003	0.001mg/m ³
TSP	GB/T 15432-1995	1μg/m ³
	GB/T 14675-1993	10

HJ 2.2—2018 D

$P_i = C_i/C_{oi}$

P_i ——

C_i —— mg/m³

C_{oi} —— mg/m³

$P_i>1$

3.2-4

3.2-5

3.2-6

7

2021.07.01		29.1	99.59	78		0.3
		34.1	99.10	67		0.7
		30.7	99.40	78		0.5
		28.8	99.61	79		0.1
2021.07.02		30.6	99.30	73		0.8
		33.8	99.13	68		0.9
		31.0	99.37	75		2.1
		29.3	99.62	76		0.4
2021.07.03		29.7	99.30	74		0.3
		35.0	99.03	69		0.8
		30.4	99.38	70		0.4
		28.7	99.69	75		0.1
2021.07.04		29.0	99.32	70		1.0
		33.8	99.06	69		0.6
		30.0	99.29	75		0.9
		28.8	99.70	75		0.5
2021.07.05		28.6	99.40	76		1.3
		34.1	99.00	70		0.9
		30.0	99.33	68		0.4
		28.8	99.35	76		2.1
2021.07.06		29.4	99.32	77		1.4
		35.0	99.00	75		2.4
		30.2	99.34	69		0.7
		29.2	99.34	70		0.2
2021.07.07		29.4	99.31	78		0.6
		34.2	99.02	74		1.4
		30.4	99.31	75		0.2
		28.8	99.40	72		0.3

A2	2021.07.01		0.073	ND	ND	10
				ND	ND	
				ND	ND	
				ND	ND	
	2021.07.02		0.072	ND	ND	10
				ND	ND	
				ND	ND	
				ND	ND	
	2021.07.03		0.071	ND	ND	10
				ND	ND	
				ND	ND	
				ND	ND	
	2021.07.04		0.073	ND	ND	10
				ND	ND	
				ND	ND	
				ND	ND	
	2021.07.05		0.072	ND	ND	10
				ND	ND	
				ND	ND	
				ND	ND	
	2021.07.06		0.072	ND	ND	10
				ND	ND	
				ND	ND	
				ND	ND	
	2021.07.07		0.069	ND	ND	10
				ND	ND	
				ND	ND	
				ND	ND	

3.2-8

pH	pH		
	HJ 1147-2020		--
		GB	
	13195-1991		--

$$, = , /$$

$S_{i\ j}$ ——

$C_{i\ j}$ —— mg/L

C_{si} —— mg/L

○ pH

$$, = (7.0 -) / (7.0 -) \quad \text{pH}_j \leq 7.0$$

$$, = (- 7.0) / (- 7.0) \quad \text{pH}_j > 7.0$$

$S_{\text{pH},j}$ ——pH

pH_j ——pH

pH_{sd} ——pH

pH_{su} ——pH

○ DO

$$S_{\text{DO},j} = \frac{| \text{DO}_f - \text{DO}_j |}{\text{DO}_f - \text{DO}_s} \quad \text{DO}_j > \text{DO}_f$$

$S_{\text{DO}\ j}$ —— j

DO_f —— mg/L

DO_j —— j mg/L

DO_s —— mg/L

T——

3.2-9

3.2-10

5

3.2-9 3.2-10

GB3838-2002

--	--	--	--



pH	pH	0.01
	GB 6920-1986	()
	EDTA	
	GB 7477-1987	5.0mg/L
		1.1
		0.05 mg/L
	GB/T 5750.7-2006	
		HJ
	53.02009	0.025mg/L

3

1

GB/T14848-2017

1

$$i = C_i / C_{si}$$

$$i \text{ — } i$$

$$C_i \text{ — } i$$

HJ2.4-2009

6 3.2-15

N1		1m
N2		1m
N3		1m
N4		1m
N5		
N6		

A

GB 3096-2008

2021 7 1~7 2 2

3.2-16 7

3.2-16

GB3096-2008 3

GB3096-2008 4a

GB3096-2008 2

2.5km

10 7 85m 513 300m

Distance (m)	Concentration (mg/m³)
100m	0.402
50m	0.722
1m	1.303
	3

C.

d.

e.

f.

g.

29m

2

CO NO₂ THC

CO NO₂ THC

3

GB/T18883-2002

1

2

$$L_A(r) = L_A(r_0) - A$$

$$A = A_{div} + A_{atm} + A_{bar} + A_{gr} + A_{misc}$$

$L_A(r)$ — dB

$L_A(r_0)$ — dB

$r - r_0$ — m

A — dB

A_{div} — $A_{div} = 20 \lg r/r_0$ dB

A_{atm} — $A_{atm} = a \cdot r - r_0 / 1000$ dB

A_{bar} — dB

A_{gr} — dB

A_{misc} — dB 0.025dB/m

$$L_{eqs} = 10 \lg \left(\sum_{i=1}^n 10^{0.1 L_{eqi}} \right)$$

L_{eqs} — dB(A)

L_{eqi} — i dB(A)

4.1-1

dB(A)

			m								
			10	30	55	100	150	200	350		
		103	83.0	77.0	73.5	64.9	63.0	59.5	57.0	70	55
		105	85.0	79.0	75.5	66.9	65.0	61.5	59.0		
		107	87.0	81.0	77.5	68.9	67.0	63.5	61.0		
		105	85.0	79.0	75.5	66.9	65.0	61.5	59.0		
		95	75.0	69.0	65.5	56.9	55.0	51.5	49.0		
		105	85.0	79.0	75.5	66.9	65.0	61.5	59.0		
		105	85.0	79.0	75.5	66.9	65.0	61.5	59.0		
		105	85.0	79.0	75.5	66.9	65.0	61.5	59.0		
		105	85.0	79.0	75.5	66.9	65.0	61.5	59.0		
		100	80.0	70.5	65.2	65.2	56.5	54.0	49.1		

4.1-1

30~55m

200~350m

29m

35m

3m

35m

5~13dB A

“ ”

GB12523-2011

1

	SCR	8m	0.3m		SO ₂
NO _x				GB13271-2014	2

690.496m³/d

pH COD BOD

GB18918-2002

A

1

2

3

HJ610-2016

100 1000

4

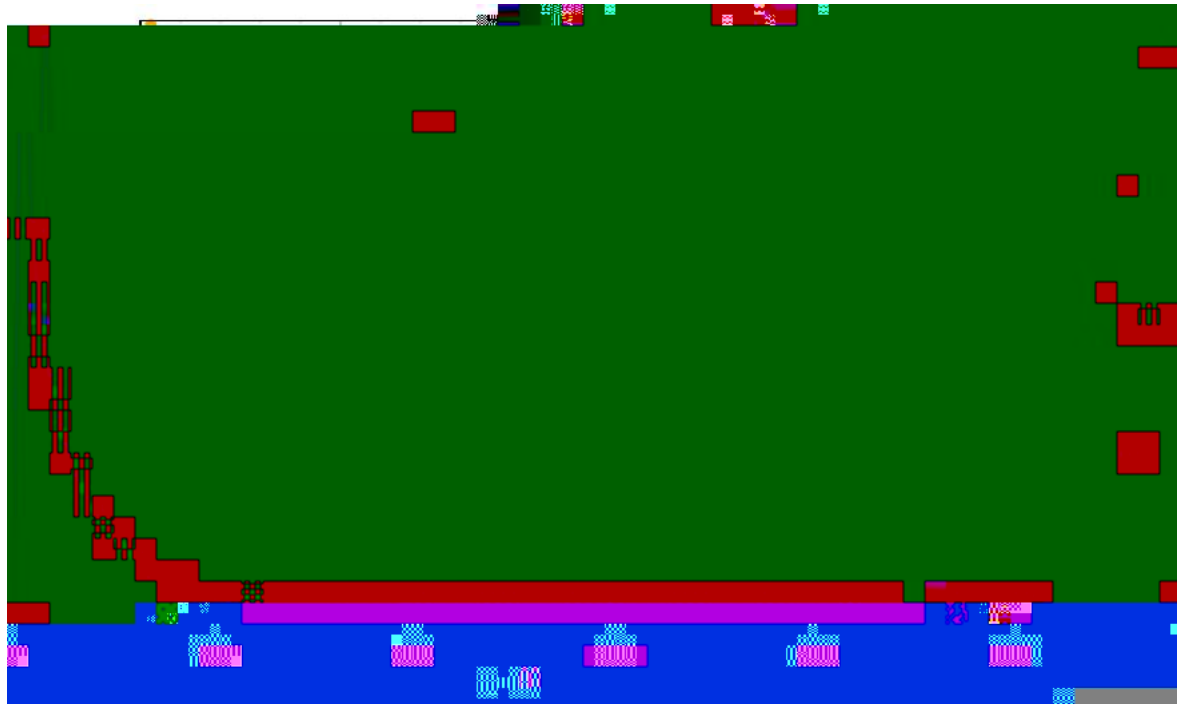
COD NH₃-N300m³

5%

4.2-3

4.2-3

5%

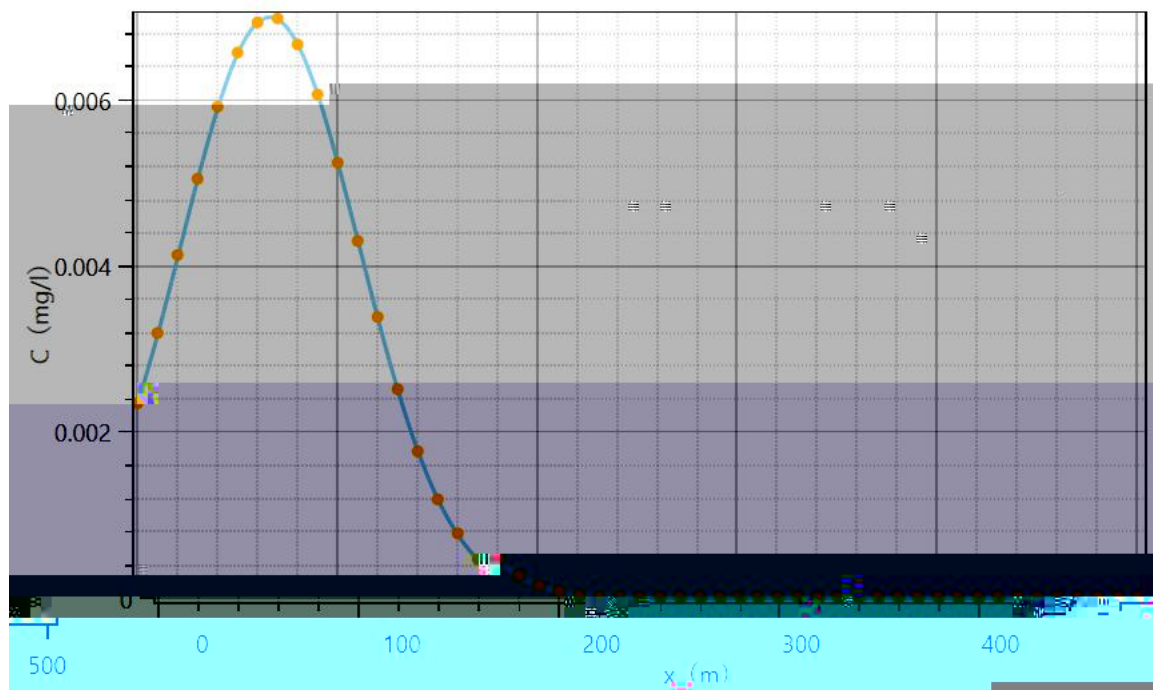


4.2-1

5%

4m

COD

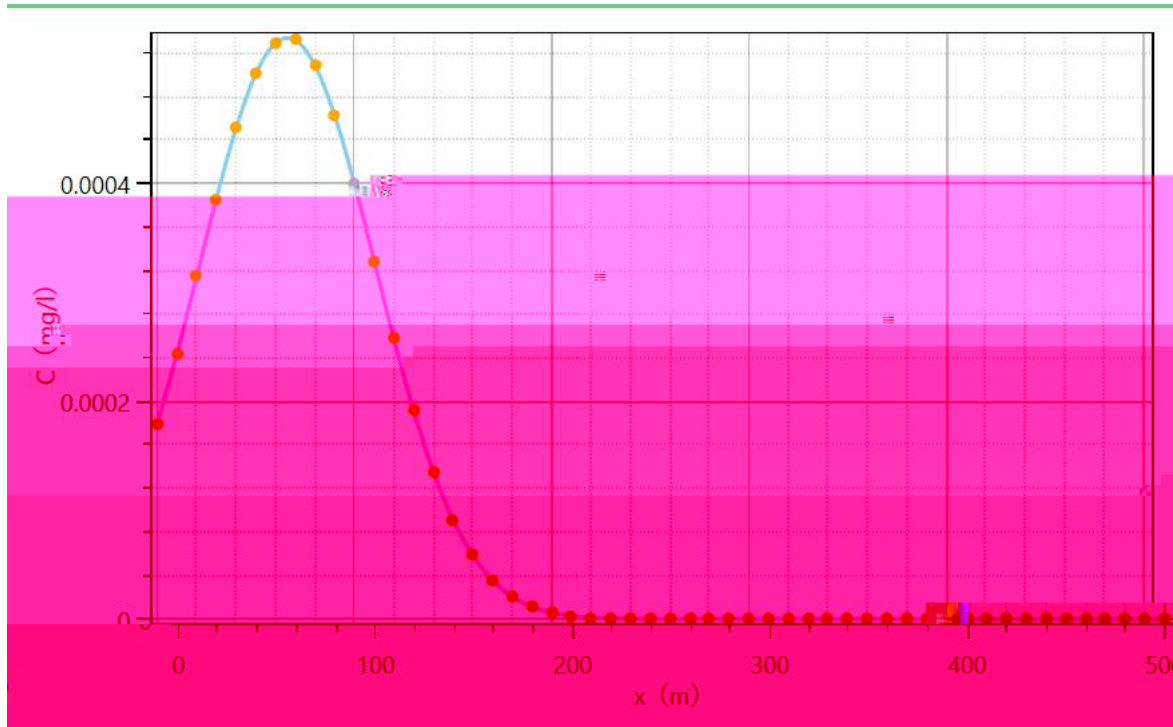


4.2-2

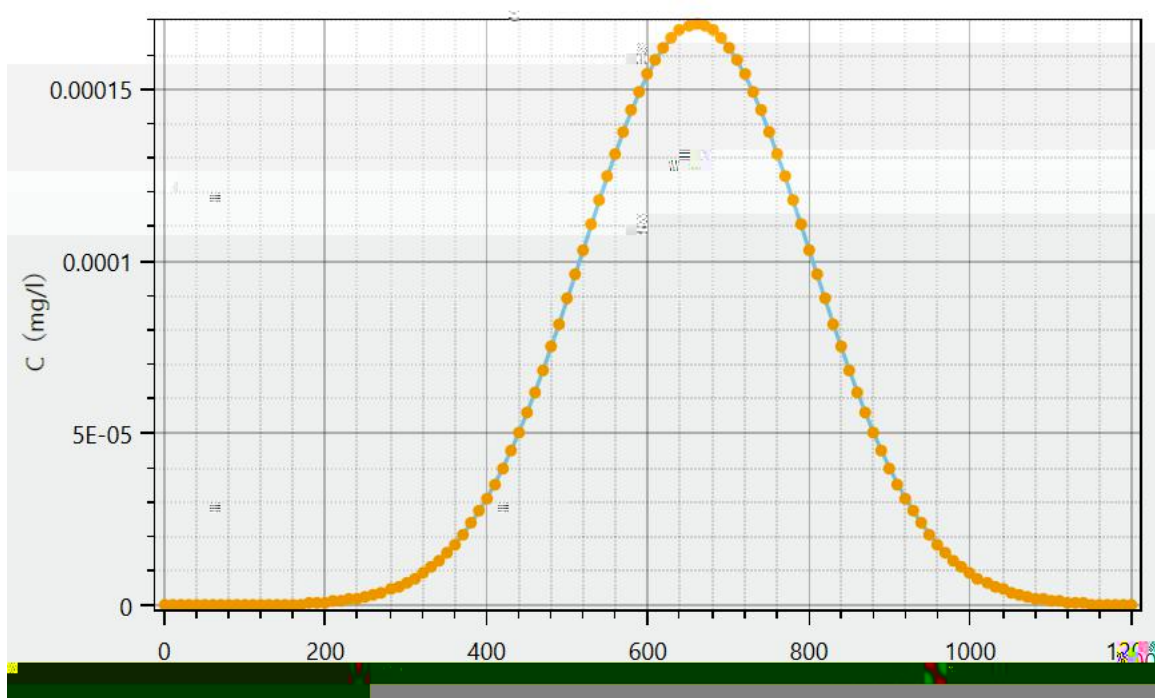
5%

100d

COD



4.2-5 5% 100d $\text{NH}_3\text{-N}$



4.2-6 5% 1000d $\text{NH}_3\text{-N}$

$$K = 1 \cdot 10^{-7} \text{ cm/s}$$

$$65 \text{ } 95 \text{ dB(A)}$$

$$2.2-14$$

$$200 \text{ m}$$

$$75 \text{ dB(A)}$$

$$L_p = L_w - 20 \log r - 8 - L$$

$$L_p \text{ --- } r \text{ --- } \text{dB(A)}$$

$$L_w \text{ --- } \text{dB(A)}$$

$$\begin{aligned}
 & r \text{ — } m \\
 & L \text{ — } \text{dB(A)} \quad 0 \\
 & = 10 \lg \left(\sum_{i=1}^n 10^{0.1 L_i} \right) \\
 & L_1 \quad L_2 \text{ — } 1 \quad 2 \quad \text{dB(A)} \\
 & r_1 \quad r_2 \text{ — } m \\
 & \Delta \text{ — } \text{dB(A)} \\
 & L_{eqs} \text{ — } \text{dB(A)} \\
 & L_{eqi} \text{ — } \text{dB(A)}
 \end{aligned}$$

4.2-4

4.2-1

1#	26.11	51.4	51.41	0
2#	25.62	50.6	50.61	0
GB3096—2008 2		60dB(A)		
1m	37.33	49.3	/	0
1m	32.67	50.5	/	0
1m	46.04	51.8	/	0
1m	32.47	49.9	/	0
GB12348—2008 3 4		3	65dB(A)	55dB(A)
		4	70dB(A)	55dB(A)

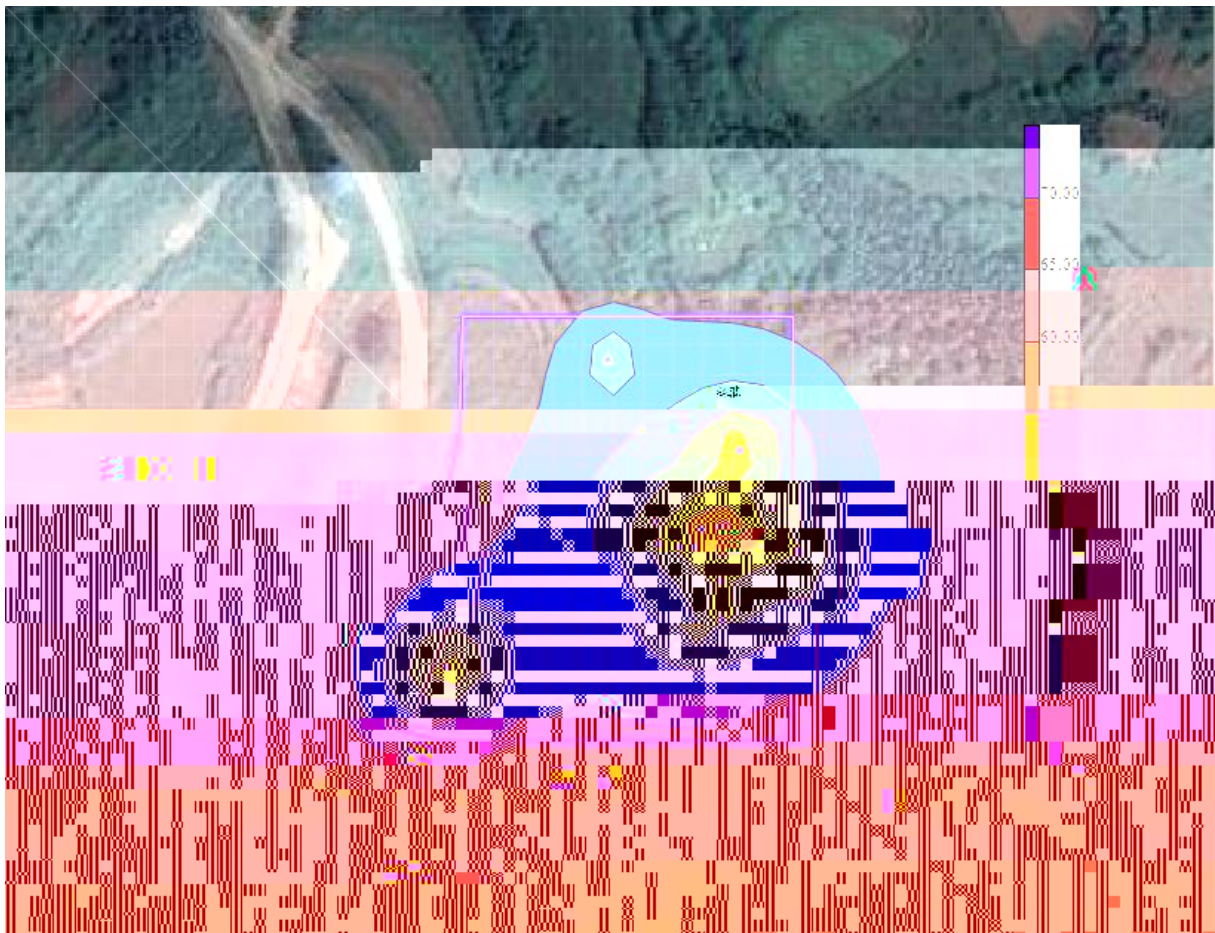
4.2-4

GB3096—2008 2

GB

12348-2008 3

GB 12348-2008 4



1

8

2

700t/a

3

680t/a

4

20t/a

5

18t/a

6

246t/a

7

0.17t/a

8

1t/a

GB18599-2001 2013

HJ169-2018

1

HJ169-2018

B

Q

Q

Q

$$Q = \sum q_i / Q_i$$

 q_i —

t

 Q_i —

t

Q 1

Q ≥ 1

Q

1 ≤ Q

10

10 ≤ Q

100

Q ≥ 100

HJ 169-2018

B

3

1.5-1 5

HJ 169-2018

B

1

74.44

(=1)1.1

-6

102.2

kPa /

2

16.04

(=1)0.55

-182.5

-161.5

-188

-82.6

538

4.59MPa

3

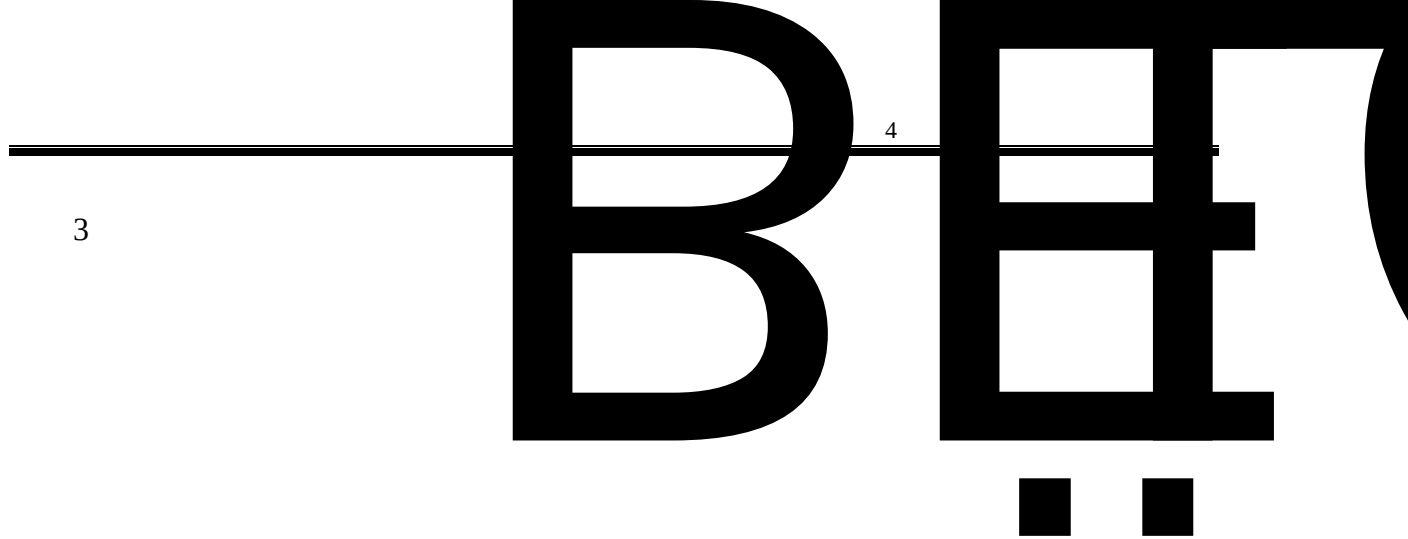
GB/T4016-83

70

70

100

8% 10%



1

1

2

50cm

10cm

50cm

GB/T13869-1992

2

4.2-7

108°49'42.87"

22°37'33.01"

100%

8

9

2

3

4

5

1

2

3

4

5

6

7

8

1

900m³/d

“

+A/O+

”

1

5.2-1

5.2-1



+ +A/O

A/O

PAM PAC

— HJ 860.3—2018

7 “

- ”

A/O PAM PAC

HJ 2004-2010
HJ 2004-2010



88

2300m³/d “ ø\$+ P \$a!DB3+"d@G” +A/O + ¼ +.2 %\$! Ö 4ó@’
8

1		100	150	62
2	BOD ₅	110	110	28
3				



400m³

100m³

400m³

4000m³

GB18597-2001

2mm

 $\leq 1.0 \times 10^{-12} \text{cm/s}$

HDPE

3

a.

b.

c.

d.

1

1

a.

b.

4

HJ610-2016

1

2

3

4

GB12348 2008 3

ă ~

95 2013

24

75~90

M P K ă ≥7% ≥75% ≤30%
M25-2011 ≥5% ≥45% ≤30%

—

5.2-3

	%	%	%		/t
	≥5	≥45	≤30		1200~1500

	≥ 7	≥ 75	≤ 30		800
	≥ 7	≥ 75	≤ 30		2000

NY525-2011

5

6

7

900-214-08

GB18597-2001

610065010.66 %

5.3-1

				6
				/
				/
				5
				3
				8
				0
				4
				2
				50
				60
				10
				5
				300
				10
				25
				70
				10
				/

DR 1P•8N—™S,, ä3 '%-q B, \$7@

10

▶

6100 650 10.66 %

1
650 20 32.50

/

2 “ ”

2 /

3

2% 7.81

5.85 / 6.3-1

1		32.5
2	“ ”	2
3		13
		47.5

2
15m 2 8m

“ +A/O+ ”

2

3

4

7.1-1

1

2

682

<

>

7.1-1 7.1-2

1
2
3
4

“ ”

1
2

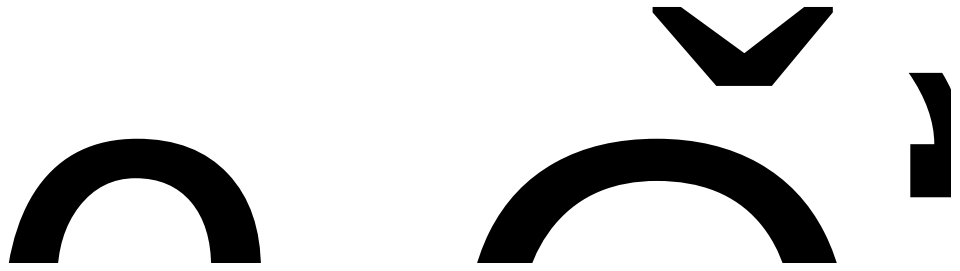
“ ”

3
4

5
6
7

8

“ ”



		t/a			
SO ₂	0.0000101				0.0000101
NO _x	0.226		+8m		0.226
	0.0343				0.0343
NH ₃	0.15374			1 15m	0.02306
H ₂ S	0.00143	0.8m			0.00021
NH ₃	0.01708				0.01708
H ₂ S	0.00016				0.00016
NH ₃	0.4542			1 15m	0.0681
H ₂ S	0.0176	0.4m			0.0026
NH ₃	0.0505				0.0505
H ₂ S	0.0020				0.0020
SO ₂	0.194				0.194
NO _x	0.124				0.124
	0.035				0.035
CO	0.074				0.074
HC	0.072				0.072
	0.0378				0.009t/a
	248578.56m ³ /a				248578.56m ³ /a
COD _{Cr}	390.222				62.145
BOD ₅	201.340				27.344
SS	209.903				37.287
NH ₃ -N	29.765				7.457

“ ”

COD

NO_x

COD

COD

0.350t/a

HJ819-2017

HJ942—2018

T		7
A		1 /
GB12348-2008	1	3
GB12348-2008	1	4

HJ942—2018

HJ 860.3—2018

HJ

820-2017

1

2

3

5

4

1

2

3

2014 56

4

<

>

682

2017 10 1

“

”

[2017]4

“

”

2017 10 1

2018

9

“

”

7.4-1

7.5-1

2

1# 2# 3#

GB/T14848-2017 III

1

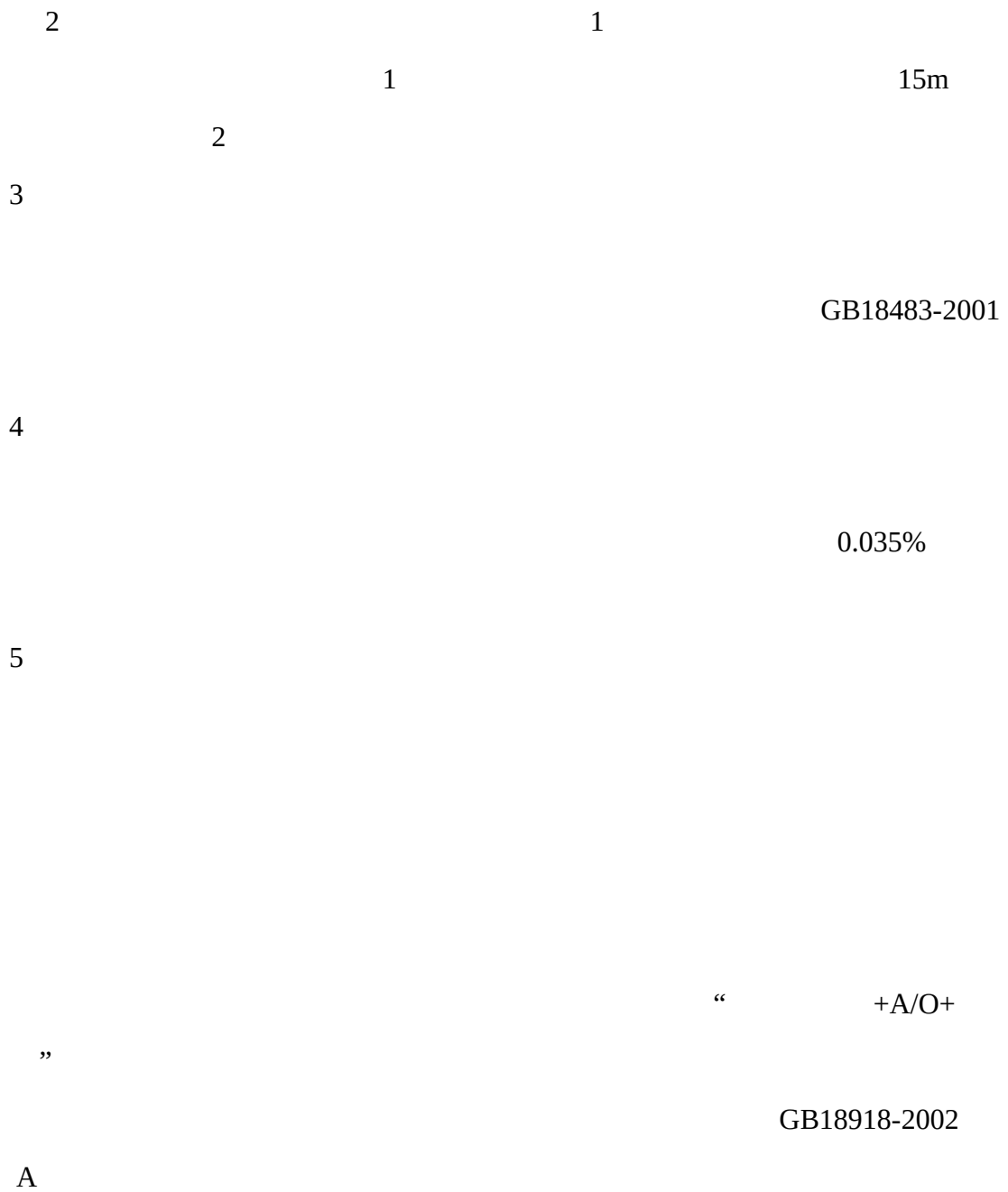
2

3

(GB 12523-2011

4

4



6100

650

10.66 %