1 /

( )

1958

55

2016

24.618

1 /

2021 11 1 /

2021

1

/

2022 4

3

3

600m 328m 280m 546m

4

126.12 / 60.62 /

130 /

13t 0.5t/d 150t/a

2019 2021

1

2

1

1.1

1.1.1

1 2015 1 1

2 2018 12 29

3 2018 1 1

4 2018 10 26

5 2018 12 29

6 2020 9 1

7 2019 1 1

8 2004 8 28

9 2019 4 23

10 2012 7 1

11 2018 10 26

12 2018 10 26

13 2021 2021 1 1

14 682 2017 10 1

15 2011 35

16 2008 38 2000 11 26

17 2021 1 1

18 2013 37

19 2015 17

20 2016 31

21 2005 22

22 2005 152

23 2012

6 2011

52

7

8	HJ169-2018
9	HJ884-2018

1.1.4



GB3838-2002

GB3838-2002

GB3838-2002

3

2019~2035

GB3096-2008 3

GB3096-2008 2

1.2-5

1		
2		III
3		3 2
4		
5		
6		
7		
8		
9		
10		
11		
12		

1.2.2.2

1

1

SO_2 NO_2 $PM_{2.5}$ PM_{10} TSP O_3 CO

GB3095-2012

GB3095-2012

HJ 2.2-2018 D

1.2-6

1.2-6

			60	
	24		150	
	1		500	
			40	
	24		80	
	1		200	
			35	
$PM_{2.5}$	24	μg/m^3	75	
			70	
PM_{10}	24		150	
TSP			200	GB3095-2012
	24		300	
O_3	8		160	
	1		200	
	1		20	
			7	
CO	24	mg/m^3	4	
	1		10	
			0.5	
		μg/m^3	0.005	

	≤1.0	≤1.5	≤1.5
	≤0.05	≤0.5	≤1.0
	≤250	≤250	≤250
	≤0.05	≤0.05	≤0.1
	/	/	/

2

GB/T14848-2017

1.2-8

1.2-8 GB/T 14848-2017 mg/L pH

1	pH	6.5~8.5
2		≤3.0
3		≤450
4		≤0.5
5	N	≤1
6	N	≤20
7		≤250
8		≤0.002
9		0.05
10		0.01
11		0.001
12		0.05
13		0.01
14		0.005
15		0.02
16		1
17		0.2
18		0.3
19		0.10
20		/
21		0.02

3

GB3096-2008 3

GB3096-2008 2 1.2-9

1.2-9 **Leq dB(A)**

3	65	55
2	60	50

4

GB36600-2018

1.2-10

1.2-10

		CAS				
28	1,2-	95-50-1	560	560	560	560
29						

6	m^3/	10000		/	/	
7		/		1.0		GB16297-1996
8		/		1.5		GB14554-93

2

GB8978-1996

1.2-12

GB18918-2002 A

1.2-12 GB8978-1996 mg/L

	pH	SS	COD	BOD_5	
	6~9	400	500	300	-

3

GB12348

2008 3 GB12348 2008

2 1.2-13

1.2-13 dB(A)

	GB 12523 2011	70	55
	GB 12348 2008 2	60	50
	GB 12348 2008 3	65	55

4

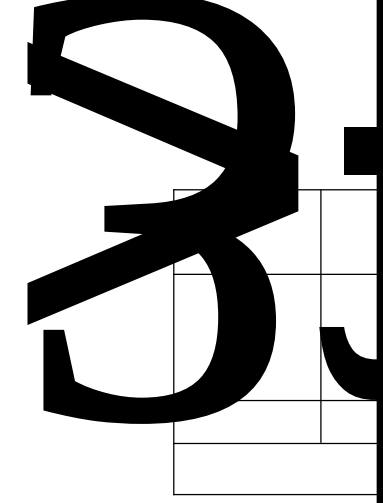
GB 18599-2001

GB 18597-2001

2013

1.3-2

			/	10%
		μg/m³	/%	$D_{10\%}$ /m
	SO_2	0.465	0.09	0
	NO_2	4.390	2.14	0
1	TSP	1.980	0.22	0
	HCl	1.740	3.48	0
		0.362	1.81	0
2				



1.3.1.6

HJ964-2018 A

1000m 4.6hm^2 5hm^2

N©

1.3-7 1.3-8

1.3-7

1.3-8

	I			**II**			**III**		
									-
								-	-
“-”									

1.3.1.7

• N©ý 2km^2

HJ19-2011

B

3

1.4.2

2020 6

1.4-1

1.4-2

HJ1091-2020 1.4-3

2020 /

HJ1091-2020

1

2

5		GB31574	GB31574 ,´	

1.4-2

Ã

1

#

o

20

			GB18597-2001 2013	
3		4		
		3% 98%	2 3% 98%	
4				

	1			
	2			
	3		GB31574-2015	
	4	GB34330	GB31574-2015	

1.5

(m)

1	383	500

GB/T14848-1993

2

2.1

6

4 3000m^2

10000 4800 /

1700 / 3500 /

2.2

2.2.1

1 /

2365.77 313.1

6 E108°33′44″ N22°43′55″

1

3075m^2

6

300d/a 3 /d

9

7795 Al 95%

2400

2.2.2

2.2-1

2.2-1

2

1

2

381 t/a

47.25 kWh/a

2.2.3.2

200 t/d

4% 2400 t/a

4800 t/a

2.2-3

2.2-3 **%**

		1#	2#	3#	
1	Al	47.11	54,46	3.78	35.117
2	Al_2O_3	36.67	48.67	59.19	48.176
3	Cu	0.0070	0.056	0.036	0.033
4	Pb	0.0001	0.0001	0.0001	0.00005
5	Zn	0.011	0.24	0.0080	0.0863
6	Cd	0.0001	0.0001	0.0001	0.00005
7	Ni	0.0057	0.0033	0.0018	0.0036
8	Cr	0.0033	0.018	0.0053	0.00886
9					

T R

2.2-4

2.2-4

					t/a
HW48		321-024-48		R T	4800
		321-025-48		T	
		321-026-48		R	
		321-034-48		T R	

2.2.3.3

5 6 7

1 3

2.2-5

	5	99%		600
	6			
	7			
	1	99.2%		2500
	3			

2.2.4

2.2-6

2.2-6

1			2
2			1
3			2

4 1

2.2.7.1

2.2.7.2

2.2.7.3

GB 18597-2001

lm $\leq 10^{-7}$cm/s 2mm 2mm $\leq 10^{-10}$cm/s

2.3

2.3.1

6

2.3.2

2.3.2.1

2.3-1

			H_2 NH_3 NH_3 H_2	HCl 20%	
			(AlN) $A1_2O_3$ N_2	SO_2 NOx HCl	

ALUKEC

90%

1 2

3 90%

4

2.3.2.2

1

1

2

/

90%

1 9-19 t 0 9t 8 19t

2 60m^3/t-

3 70-100 Kw

4 4 5 /

5 0 6 r/min

6 360

7

1 24

2 30t/

3 700 760 660

4

5 500 600 2000mm

6 30

90 %

2 1

3

4

Al 3%

Al 3%

2.3-2

G1

25m

G2

W1

COD BOD_5

NH_3-N

0.576t/d 172.8t/a

2.4-1

13.5t/d

0.72t/d



2.5.3

t/a 160.875 t/a %

0.804 t/a

HCl

650~70

802ºC

H^+ Cl^-

27.60t/d

700~750 680

~750 1740 2567 1962

2670 2730

2.6.1.1		1.625 t/a

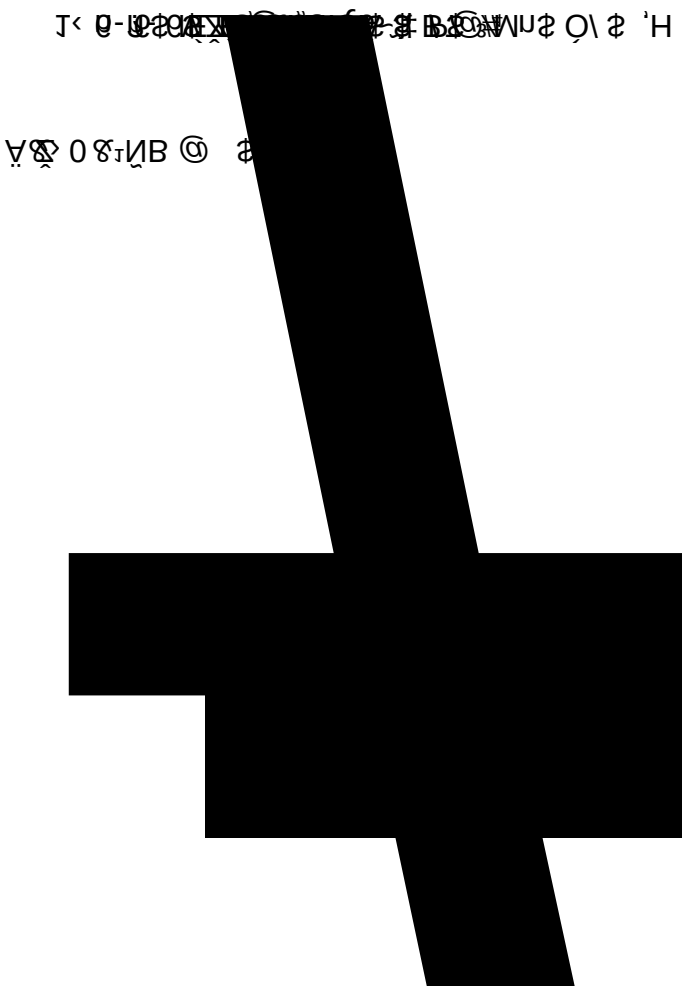
3

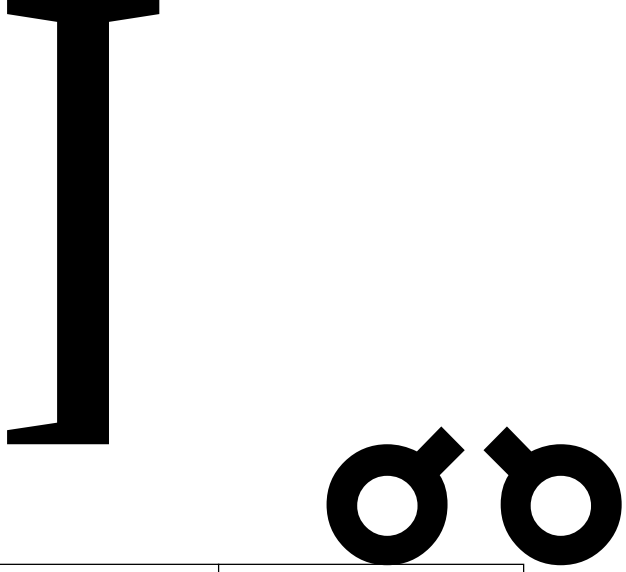
17/41=0.007 t/a

2.6-3

		(t/a)	**(kg/h)**		**m**	**h**
+		2.225	0.309	25m×20m	20.35	7200
		0.012	0.0016	25m×20m	20.35	7200
		0.04	0.006	/	/	7200
		0.007	0.001	7m×15m	19.80	7200

2.6.1.3





2.6-4

		mg/L	**kg/h**		**%**	**mg/L**	**kg/h**
	COD	300	0.0007		15	255	0.0006
	BOD_5	200	0.0005		10	180	0.0004
	SS	200	0.0005		30	140	0.0004
		25	0.0001		4	24	0.0001

2.6.3

2.6-5

2.6-5

			dB(A)		**dB(A)**
1		1	80		60
2		2	85		65
3		1	90		60
4		1	80		60
5		1	85		55
6		1	90		60
7		1	90		60
8		1	80		60
9		1	80		60

2.6.4

1

9 300 0.5kg/

GB50015-2019 4.10.15-2

0.2L 9 0.54 m^3/a

1.5t/m^3 0.81t/a

3

0.5t/a

4

2021

HW48

0.5h 700

2.6-6 t/a

S1		2225.213			HW48	321-026-48	
S2		171.687				321-034-48	
S3		0.5t/a			HW08	900-214-08	
S4		1.35t/a			/	/	
S5		0.81t/a			/	/	

2.6.5

2.6-7

2.6-7

	SO_2	t/a	0.192	/	0.192
	NOx	t/a	1.796	/	1.796
		t/a	172.55	171.687	0.863
	HCl	t/a	0.724	/	0.151
		t/a	0.148	/	0.173
		t/a	2.237	/	2.237
		t/a	0.04	/	0.04
		t/a	0.007	/	0.007
	COD	t/a	0.0007	0.0001	0.0006
	BOD_5	t/a	0.0005	0.0001	0.0004
	SS	t/a	0.0005	0.0001	0.0004
		t/a	0.0001	/	0.0001

		t/a	2225.213	/	2225.213
		t/a	171.687	/	171.687
		t/a	0.5	/	0.5
		t/a	1.35	/	1.35
		t/a	0.81	/	0.81

2.6.6

99%

2 / 1h

2.6-8

	(m)/ /			**mg/m³**	**kg/h**	**h**	**/**
	25/100		99%	19.17	0.23	1	2

2.7

2.7.1

107°19′ 109°38′ 22°12′ 24°02′ 108°22′ 22°48′

22112km^2 6479km^2

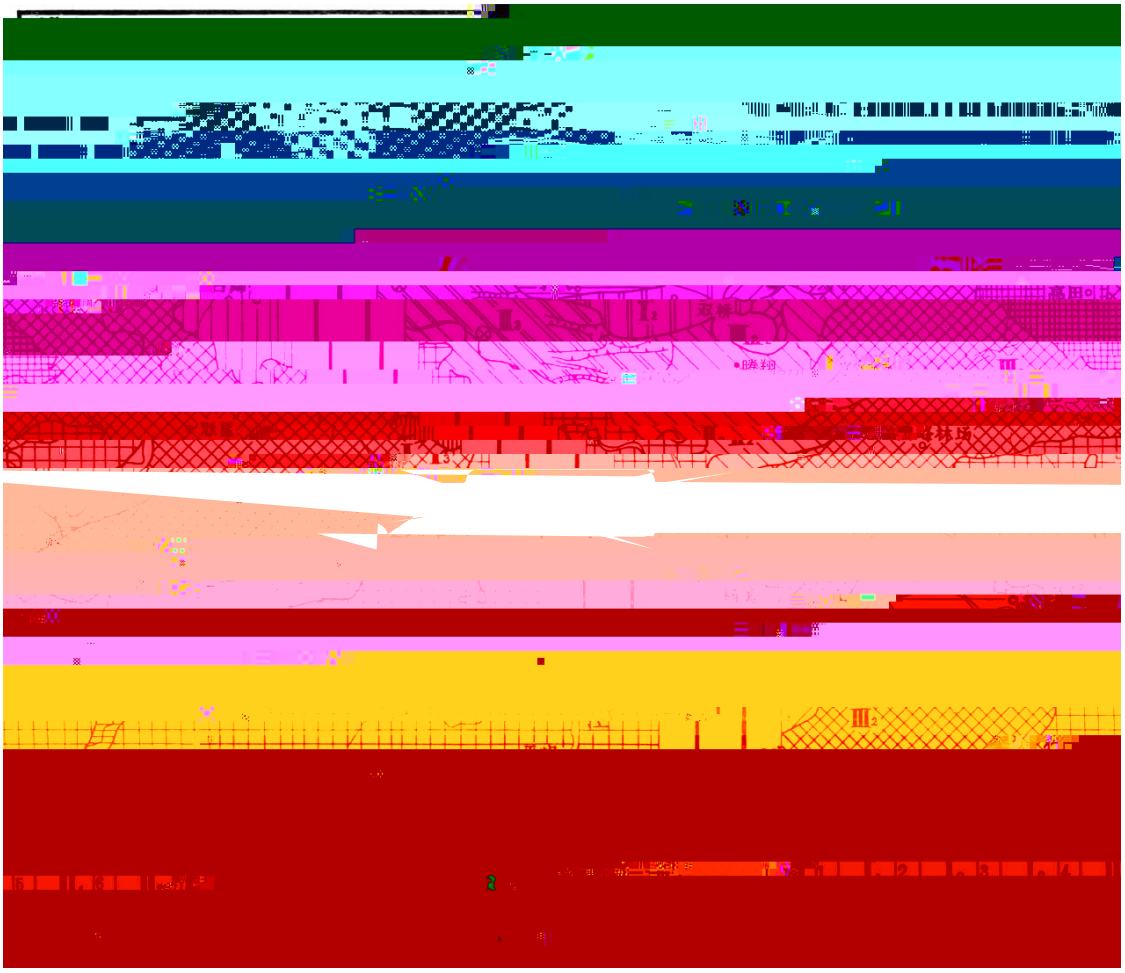
2.7.2

1

75.0 165.0m 15 25 90.0m

2 80.0

175.0m 10 25 95.0m



K

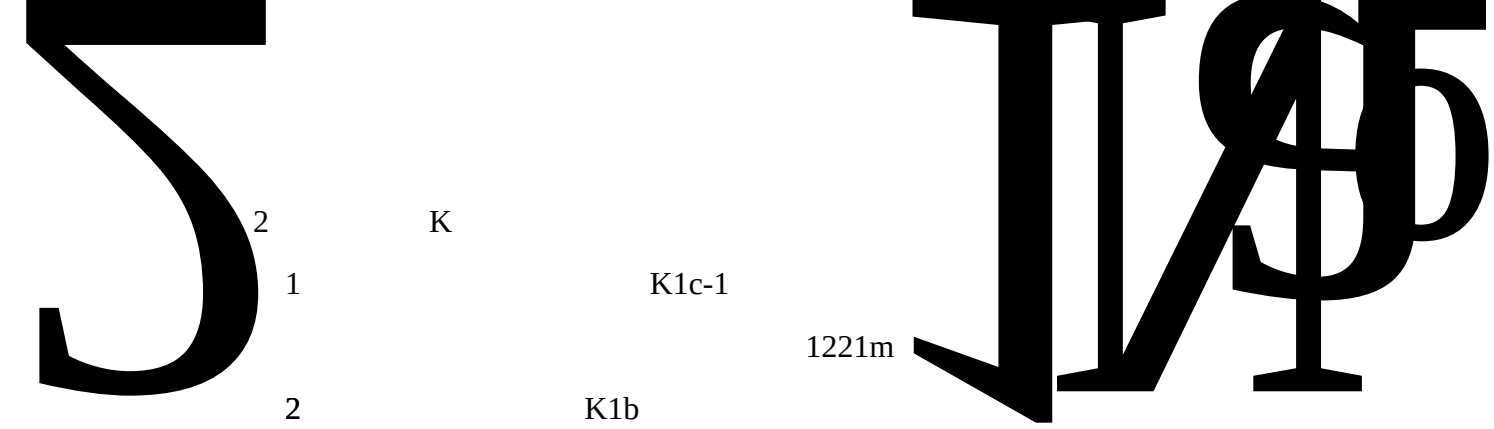
- - 26km

15° 30° E

3.4km

- - 30km

10° 25° K



2 K

1 K1c-1

1221m

2 K1b

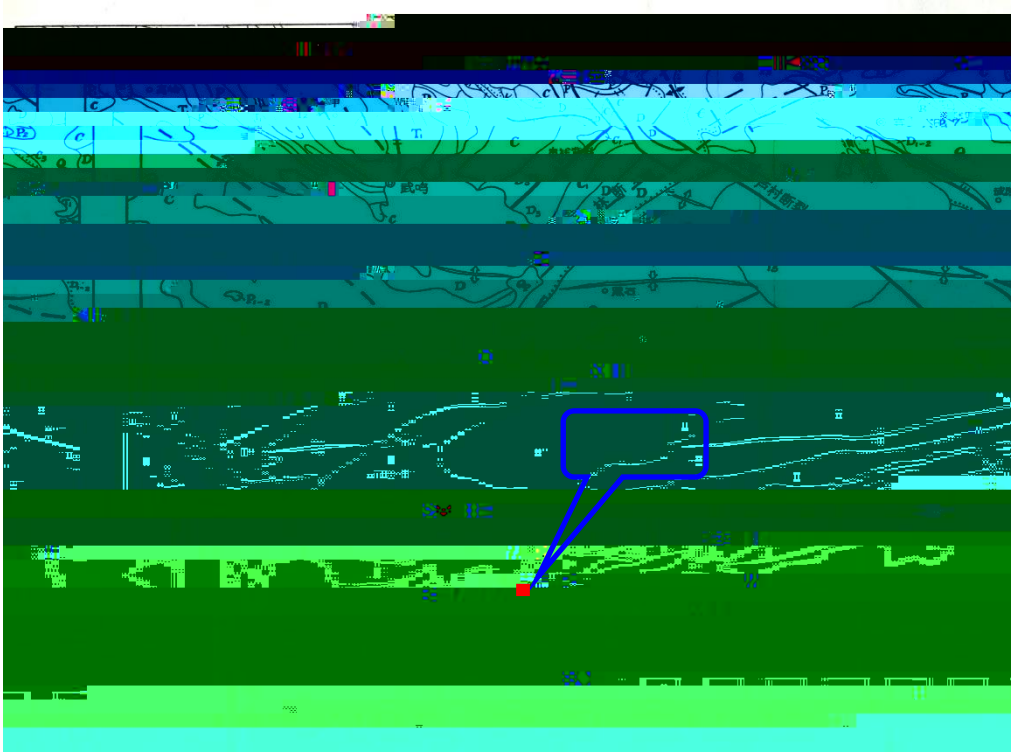
417m

3 K1a

885m

3 E

1 E2



2.7-2　　1　20

2.7.6

2.7.6.1

1　20

2

1

2

2.7.6.2

1　20

1

1

0 30m

1 20 0.02

0.05L/s 0.5 1.0 L/s·km^2 10 30m

2

225 238

225

238 900 545L/s

4.1 L/s·km^2

2

, E1

5 10cm

225

900L/s 4.1L/s·km2

10~20L/s

3

K1a K1b K1c-1

E2 1 20

0.1 1.0L/s

2.7.6.3

1 20

2.7.6.4

2.7.6.5

225 238

1 225

225

10m 3m 2m 30 50m

20m 25

4.0km

1m

C

S002 S003 226 10km,

220 40

50 300m

S003

S003 226 0.36‰

0.22‰ 900L/s 4.1L/s·km2

2 238

238

500 700m

10 130

300

2 E

E1

70 360m

351° 10°

2.7.7.3

1

2

E1

2.7.7.4

2.7.7.5

5 10m 0 1.80m

76.30 83.60m 5.00 7.20m

12.10‰ D1 83.60m D2

76.30m 0.60km 7.30m 12.10‰



2.7.8

16 22.7+a¾

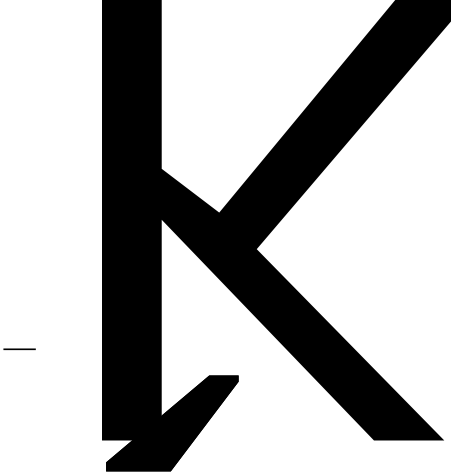
80% 5

45% 8 9

1302.6mm 1970.6mm 1923 ¤

830.1mm 1989 89% 1736.6mm

2.7.9



2.7.10

6 56 104

"d-3 96.2% Ö

94% 600m 100~150m

80~100m

B@Ž.JPKw63 • - 80m ' ’@ 4×R$ Ó •

2.7.11

3

3.1

3.1.1

2006 11

2007 12 25

2007 259

2011

7.76km^2 12.81km^2 2011

2011 329

2018

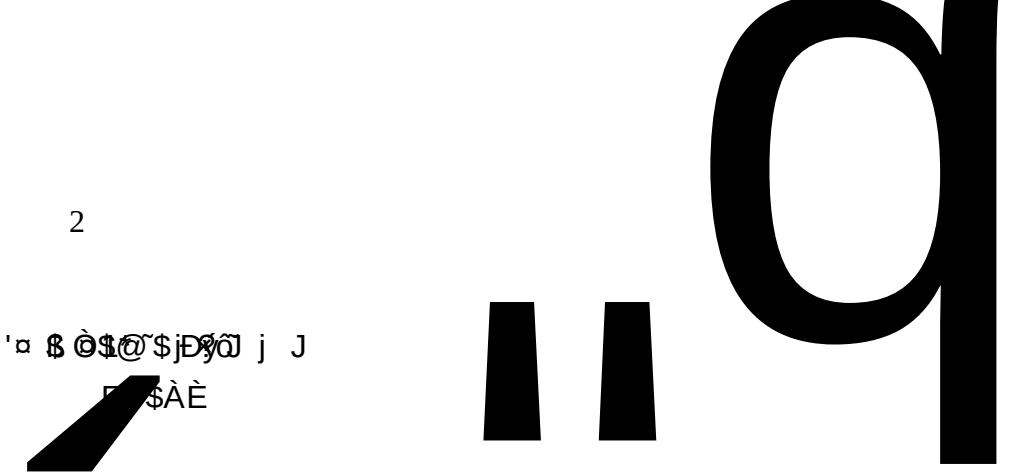
69.79km^2 2019

2019

2019 8)

2019

2



3

1.5 m^3/d

3.1-1 **t/a** **m3**

			COD				**VOCs**								
1		/	/	/	/	/	0.002	/	/		0.6		/	/	/
2		/	/	/	/	/	0.01	/	/		0.2		/	/	/
		/	/	/	/	/	0.012	/	/	/	0.8		/	1.55	/

3.2

3.2.1

2020 2020

PM_{10} $PM_{2.5}$

3.2-3

1 4 02 00

1

HCl 08 00 14 00 20 00 45

20h

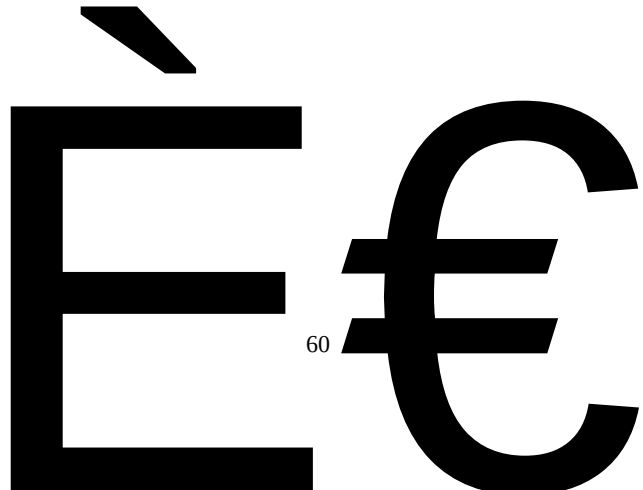
As Pb Cd 20h

TSP 24h 7d

Sn Cr) 02 Ã08

1

Ь



—— HJ2.2-2018

, = MAX [1 ضخي = 1 ,]

C x y —— x y

μg/m^3

C j t —— j t 1h 8h

μg/m^3

n——

——

3.2.2.4

3.2-5

3.2.3

2020 2020

PM_{10} $PM_{2.5}$

95% 8 90%

GB3095-2012

3.3

3.3.1

2022 5 16

-2022 5 18

3.3.1.1

1

3.4-1

3.3-1

W1		100m	
W2		500m	
W3		500m	
W4		500m	

2

pH SS COD BOD_5

LAS 13

3.3.1.2

1

3

2

HJ/T91-2002

3.4-2

3.3-2

1			GB/T 13195-1991	—
2	pH	pH	GB/T 6920-1986	0.01
3			GB/T 11901-1989	4mg/L
4			HJ828-2017	4mg/L
5			(BOD_5) HJ 505-2009	0.5mg/L
6			GB/T 11903-1989	—
7			HJ 535-2009	0.025mg/L
8			GB/T 11893-1989	0.01mg/L
9				

61-878

Si.j=Ci.j/Csi

Si.j i j 1

Ci.j i j

Csi i

DO

$$S_{DO,j} = DO_s / DO_j \qquad DO_j \leqslant DO_f$$

$$S_{DO,j} = \frac{|DO_s - DO_j|}{DO_f - DO_s} \qquad DO_j > DO_f$$

SDO j

DOj j mg/L

DOs mg/L

DOf mg/L DOf = 468/ 31.6+T

2

GB3838-2002

GB3838-2002

3.3.1.4

3.4-3

3.3-3 **mg/L**

3.3.2

W1 W3 W4 GB3838-2002

W2 GB3838-2002

SS SL63-94

3.4

2022 5 16

3.4.1

1

3.4-1

3.4-1

	m	m	m	m			
D1	X=36552221.80, Y=2514984.60	42	1.80	83.60			
D2	X=36552104.80, Y=2514394.80	46	0.00	76.30			
D3	X=3655477.20 Y=2515087.10	38	0.00	78.80			

2

K^+ Na^+ Ca^{2+} Mg^{2+} CO_3^{2-} HCO^{3-} Cl^- SO_4^{2-}

pH

( )

3.4.2

Г

1

3.4.3

3.5-2

3.4-2

1	pH	pH	GB/T 6920-1986	0.01
2			HJ 535-2009	0.025mg/L
3	N	F^- Cl^- NO_2^- Br^- NO_3^- PO_4^{3-}		0.016mg/L
4	N	SO_3^{2-} SO_4^{2-}	HJ 84-2016	0.016mg/L
5		F^- Cl^- NO_2^- Br^- NO_3^- PO_4^{3-}		0.006mg/L
6		SO_3^{2-} SO_4^{2-}	HJ 84-2016	0.007mg/L
7				0.018mg/L
8		4-	HJ 503-2009	0.0003mg/L
9		3 -	HJ 484-2009	0.001mg/L
10			HJ 694-	

			5750.6-2006	
15	9.1		GB/T 5750.6-2006	0.5μg/L
16				0.01mg/L
17				0.01mg/L
18		32		0.009mg/L
19			HJ 776-2015	0.05mg/L
20				0.12mg/L
21				0.02mg/L
22				0.003mg/L
23				

pH pH

pH_{su} pH

pH_{sd} pH

GB14848-2017

1.2-8

3.4.5

3.5-3

3.4-3 **mg/L** **pH**

3.4.6

GB/T14848-2017

3.5

2022 5 16

3.5.1

5 3.6-1

3.5-1

N1		
N2		
N3		
N4		
N5		
N6		

3.5.2

2022 5 16 2022 5 17 2

1

3.5.3

				150cm~300cm 300cm~600cm	1,1,2,2-
T4		E108°30′45.91″ N22°43′54.35″		0cm~50cm 50cm~150cm 150cm~300cm 300cm~600cm	1,1,1- 1,1,2- 1,2,3-
T5		E108°30′45.16″ N22°43′55.15″		0cm~50cm 50cm~150cm 150cm~300cm 300cm~600cm	1,2- 1,4- -
T6		E108°30′45.86″ N22°43′54.49″		0cm~20cm	+ - -
T7		E108°30′45.60″ N22°43′55.11″		0cm~20cm	2- [ ]
T8		E108°30′36.51″ N22°43′59.84″		0cm~20cm	[ ] [ ] [ ]
T9		E108°30′31.40″ N22°46′44″		0cm~20cm	[,]
T10		E108°30′1.00″ N22°43′27.10″		0cm~20cm	[1,2,3-]
T11				0cm~20cm	

0~0.5m 0.5~1.5m 1.5~3m 0~0.2m

3.6.2

2022 5 17 1 1

3.6.3

3.7-2

3.6-2

1		GB/T 17141-1997	0.1mg/kg
2			0.01mg/kg
3		/ HJ 687-2014	2mg/kg
4		2 GB/T 22105.2-2008	0.01mg/kg
5		1 GB/T 22105.1-2008	0.002mg/kg
6			1mg/kg

HJ 491-2019 3mg/kg

1mg/kg

	[1,3-cd]		0.1mg/kg
			0.09mg/kg
		J 873-2017	63mg/kg
48		11 - DZ/T 0279.11-2016	0.2μg/g

3.6.4

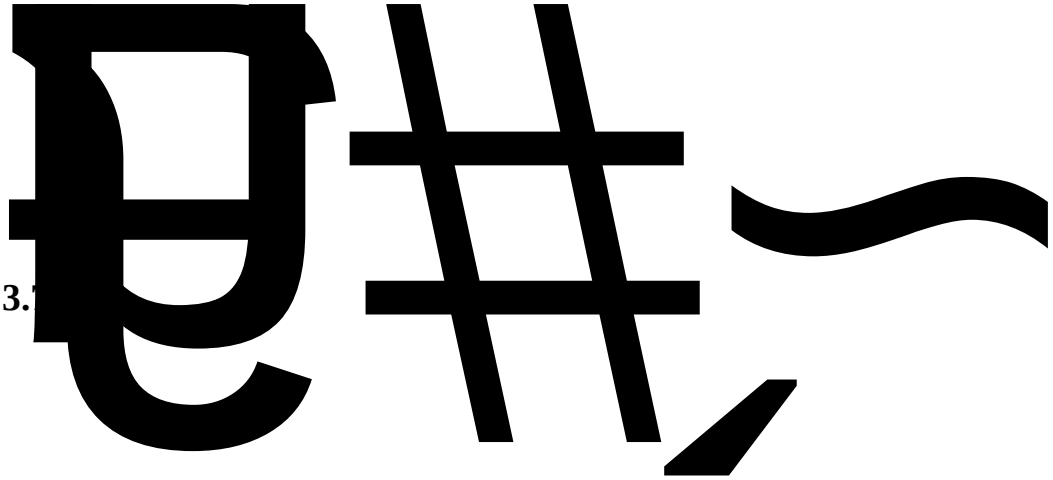
1

$P_i=C_i / S_i$

P_i

3.6-8 **mg/kg**

3.6-9



200m

3.

1.2t 20kg/d

10

5kg/d

3.8

1

2019-2035

4

4

4.1

1.3.1.1

HJ 2.2-2018 8.1.2

4.1.1

4.1-1

		mg/m³	**kg/h**	**t/a**
1	SO_2	2.222	0.027	0.192
2	NOx	20.787	0.249	1.796
3		9.333	0.112	0.863
4	HCl	1.75	0.021	0.151
5		2	0.024	0.173
	SO_2			0.192
	NOx			1.796
				0.863
	HCl			0.151
				0.173
	SO_2			0.192
	NOx			1.796
				0.863
	HCl			0.151
				0.173

4.1-2

						t/a
					mg/m³	
1	+			GB16297-1996	1	2.225
2						0.012
3			/			0.040
4			/ /		1.5	0.007

				GB14554-93		
						2.277
						0.007

4.1-3

		t/a
1	SO_2	0.192
2	NOx	1.796
3		3.140
4	HCl	0.151
5		0.173
6		0.007

4.1-4

				mg/m³	**/ kg/h**	**/h**	**/**	
1		99%		19.17	0.23	1	2	

4.1.2

4.2

4.2.1

172.8t/a

4.2-1

/a) **(mg/L)** **kg/h** **(mg/L)**

4.2.2

9

1867m 4104m

4.2-2

1		COD BOD_5 SS			/		/	/	☑ □	☑ □ □ □ □

4.2-3

/

t/a **/ mg/L**

1 / 0.01728

4.2-5

			/ **mg/L**	/ **t/d**	/ **t/a**
1	/	COD	255	0.0000144	0.00432
		BOD_5	180	0.0000096	0.00288
		SS	140	0.0000096	0.00288
			24	0.0000024	0.00072
		COD			0.00432
		BOD_5			0.00288
		SS			0.00288
					0.00072

4.3

4.3.1

4.3.2

2

4.3.2.1

K=5.75 10^{-5}cm/s

4.3-1

1 (RS01)				2 (RS02)			
cm	cm	F cm2	Q cm3/min	cm	cm	F m2	Q cm3/min
30	30	900	3.5	30	30	900	2.7
— ———— 6.5×10-5cm/s				— ———— 5.0×10-5cm/s			
— 5.75×10-5cm/s							
Q							

4.3.2.2

$K=1.60 \quad 10^{-5}cm/s$

4.3-2

	m	mm	m	m	m/d	cm/s	cm/s		
ZK2	1.50 3.50	130	3.50	3.50	1.08×10-2	1.25×10-5	1.60×10-5	Q4el	
ZK4	2.00 8.00	130	8.00	8.00	1.79×10-2	2.08×10-5			

4.3.2.3

$K=2.2 \quad 10^{-1}cm/s$

4.3-3

	$\frac{0.366}{}\lg\frac{1.6}{}$ $10\sqrt{}$						
	r(m)	Q m3/d	S(m)	L(m)	R(m)	K(m/d)	K(cm/s)
ZK1	0.055	36.384	5.8	26.35	26.86	0.2144	2.5×10-4
ZK2	0.055	38.712	5.67	49.47	22.64	0.1595	1.8×10-4
ZK3	0.055	51.936	1.85	17.8	23.16	1.5667	1.8×10-3

4.3.2.4

$K=5.73 \quad 10^{-6}cm/s$

4.3-4

	m	m/d	cm/s	cm/s		
ZK1-1	9.00 9.20	3.25×10-3	3.77×10-6	5.73×10-6	Qel	
ZK1-2	9.80 10.0	6.64×10-3	7.69×10-6			

4.3.2.5

L

4.3-5

		v				
cm/s		m/d	m^2/d	m^2/d		‰
3.68×10^{-5}	7.5×10^{-4}	1.57	0.52	0.052	0.30	12.10

4.3.2.6

K

3

3 2 2 2

V

I=1 V

∀

DRASTIC

7

7

Wi i Ri i

2

DRASTIC

3

4.3-6

	/			/	
	0 1	10			1 3
	1 2	9		/	2 5
	2 5	8		/	3 5
D	5 10	6			4 6
m	10 15	4			5 9
	15 20	2	A		4 9
	20	1			4 9
	0 50	1			4 9
	50 100	3			2 10
R	100				

mm/a

6 0

4.3-8

	D m	R mm/a			T%		C
	1 2	250			6 12		0.65
	9	9	6	1	5	3	1
	3	2	4	4	1	4	5
	27	18	24	4	5	12	5
DRASTIC			95				

DRASTIC 95 4.3-2

HJ610 2016 6

11m

8.90m 2.10m Mb 1.0 K=3.68 10-5cm/s

10-6cm/s K 10-4cm/s

HJ610 2016 5

K=7.5 10-4 cm/s

3

M=2.10m

K=3.68 10-5cm/s 0.043m/d

1

t=M/K=2.10/0.043=48.8d

M m K m/d

48.8

4.3.5

1.80km

3.80km

4.3.6

Lw— dB

Dc— dB Lw

DI

4π sr Dπ

2

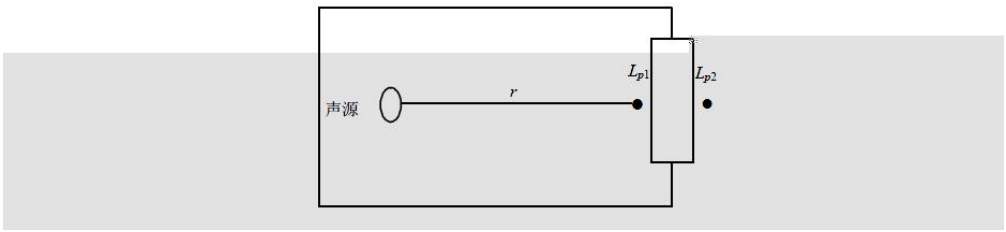
4.5-1

Lp1 Lp2

A.6

$$L_{p2} = L_{p1} - (TL + 6) \qquad (A.6)$$

TL— dB



4.4-2

A.7

$$L_{p1} = L_W + 10\lg\left(\frac{Q}{4\pi r^2} + \frac{4}{R}\right) \qquad (A.7)$$

Q— Q=1

Q=2 Q=4 Q=8

R— R =Sα/(1-α) S

$$L_{P2i}(T) = L_{P1i}(T) - (TL_i + 6) \qquad (A.9)$$

L_{P2i} (T)— N i dB

TLi— i dB

A.10

S

$$L_W = L_{P2}^{\infty}(T) + 10\lg s \qquad (A.10)$$

A

3

i A L_{Ai} T t_i

j A L_{Aj} T t_j

Leqg

$$L_{eqg} = 10\lg\left[\frac{1}{T}\left(\sum_{i=1}^{N} t_i 10^{0.1L_{Ai}} + \sum_{j=1}^{M} t_j 10^{0.1L_{Aj}}\right)\right] \qquad (A.11)$$

jt— T j s

it— T i s

T— s

N—

M—

4.4.3

GB12348-2008

3 4.5-2

4.4-3 **Leq dB(A)**

3	65	55

4.4.4

24h

	/				
			/	/	
			/	/	
			/	/	

4.5.2

5

10 20

4.5.3

DB36/1282-2020 5938 mg/kg

4.5.4

4.5.5

10 /

0.126kg/h 10 20 30

0.432 0.864 1.296mg/kg

0.021kg/h

4.5.6

10 20 30

4.6

4.6.1

4.7-1

4.6-1

		t/a					
S1		2225.213		HW48	321-026-48		
S2		171.687		HW4	321-03		

		t/a					
				8	4-48		
S3		0.5		HW08	900-214-08		
S4		1.35	/	/	/		
S5		0.81	/	/	/		

4.6.2

1

2

(GB18597-2001)

200m

3

1m $\leq 10^{-7}$cm/s

2mm 2mm $\leq 10^{-10}$cm/s

4.6.3

S1 HW48 S2 HW48 S3 HW08

85dB A

30 55dB A 30m

70 dB A 55dB

A 100 50 dB A

100 60 dB A

50dB A

4.6.4

GB18597-2001

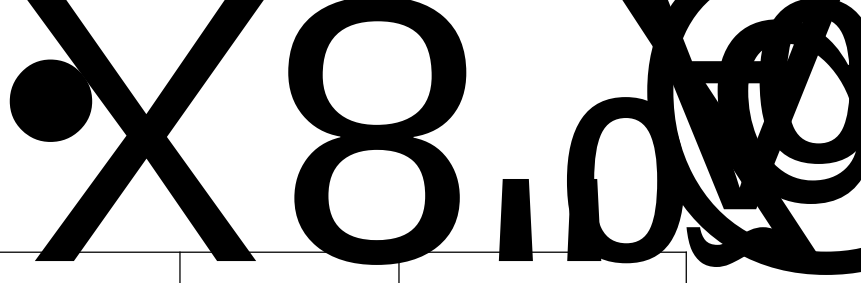
4.7

4.7.1

4.7.1.1

1

4.7-1

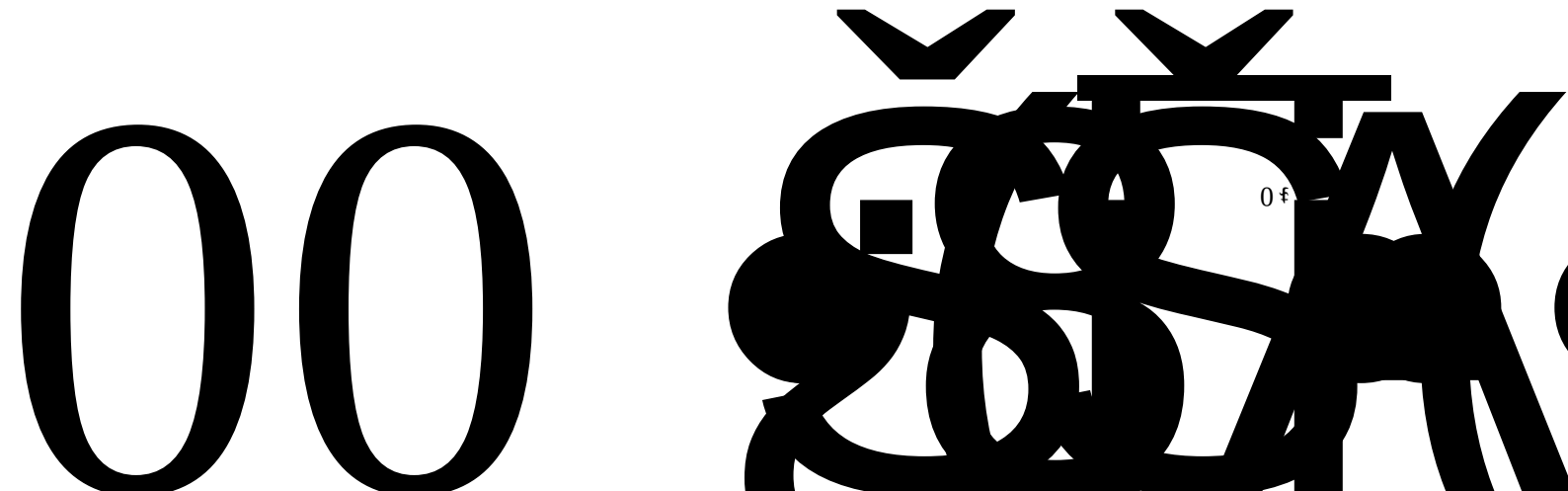


4.7-1

				t	t
1				96m^3/a	0.08t/h 133.33m^3/h
2				4800	2400
3				0.500	0.125
4				2225.213	2225.213
5				171.687	171.687

2

14	1506	400
15	1200	300
16		



6			0.125	2500	0.00005
8		/	4800	/	/
10		/	2225.213	/	/
11		/	171.687	/	/
Σ					0.00165

HJ 169-2018

4.8-4

4.7-4

	+			
				a
a A				

HJ 169-2018 A

10t 1

HJ 169-2018

4.7.2.2

1

2

3

4.7.2.3 **E**

1

5 km

1 5 **E2**

2

F2 10km

S3 **E3**

3

D2

1.80km 3.80km

G3 **E3**

ҎƸ0ɵY…(Ҏ Ÿ ßÅ

4.7.3

4.7.3.1

4.8-5 4.8-6

4.7-5

	%					
	CH_4	C_2H_6	C_3H_8	N_2	CO_2	H_2S
	92.55	5.54	0.79	0.92	≤2.0	≤20mg/m^3

4.7-6

Natural gas

2.1 21007UN 1971

100kpa 6.8

/ -160 =1 0.45

/ -182.5 =1 0.62

kj/mol 803

/ -82.6 /Mpa:4.62

CO CO2

5 14%

/ 482 632

/Mpa 0.717 2020

mj 0.28

	30

4.7-7

4.7.3.2

1

2

3

1

4.7.3.3

4.7.4

4.7.4.1

1

NO_x 1100

CO

HCl HCl

HCl HCI



4.7

GB50058

GB50057

6

GB12801.1991

4.7.5.2

1

2

3

“

”



SH3063

WV 25%

4.7.5.3

1

2 :

3

4.7.5.4

1

2

3

4

5

3

4

~~В~~

5

6

4.7.6.4

1

4.7.6.5

1

119

2

3

4

5

6

7

8

9

10

4.7.6.6

3

4

4.7.6.7

1

2

3

4

4.7.6.8

4.7.7

2015

4

4.7-8

	1 /				
			/		

E108°33′44″ N22°43′55″

5.2

5.2.1

5.2.1.1

SO_2 NO_x HCl

1

90%

98% 90% 95% 5.2-1

5.2-1

	(%)			
	83 90			
	90 95		SO_2	
	99 99.9		≤200 ( )	
	98 99.9			, ,

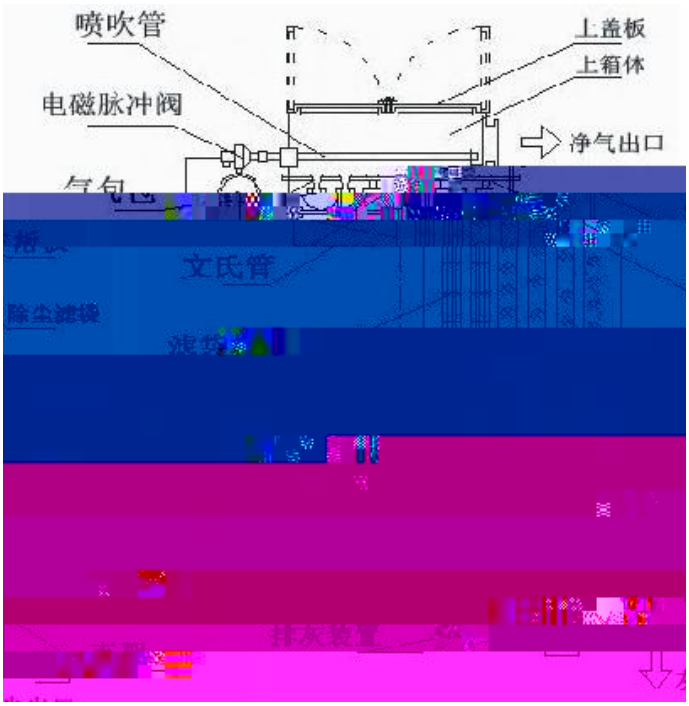
5.2-1

—

HJ863.4-2018

2 1 1

25m



5.2-1

50Pa

6~15s

GB31574-2015

5.2.1.2

≥99%

GB31574-2015 3

1 25m

5.2.1.3

GB31574-2015

15m 15m

GB31574-2015

GB/T3840-91

GB/T3840-91 Vc

1.5

$Vc=\overline{V}\times 2.303 \wedge 1/K \Gamma 1+1/K$

$K=0.74+0.19\times\overline{V}$

$\overline{V}$—

K—

GB/T3840-91

5.2.2 Vc Vs/Vc m/s

				V_C	**Vs**	**V_S/V_C**
		0.8	25	3.3	14.49	4.39

Vs

5.2.2.2

1

0.576t/d

2

5.2.3

1

2

3

4

5

6

7

1 2

2

GB18597-2001

1m $\leq 10^{-7}$cm/s 2mm

2mm $\leq 10^{-10}$cm/s

3

3 D1 D2 D3

5.2.4

1

2

3

4

5

10 30dB(A)

GB12348-2008 3

5.2.5

5.2.5.1

5.2.5.2

5.2.5.3

GB18597-2001 1m

10^{-7}cm/s 2mm 10^{-10}cm/s

5.2.5.4

5.2.5.5

5.2.5.6

5.2.6

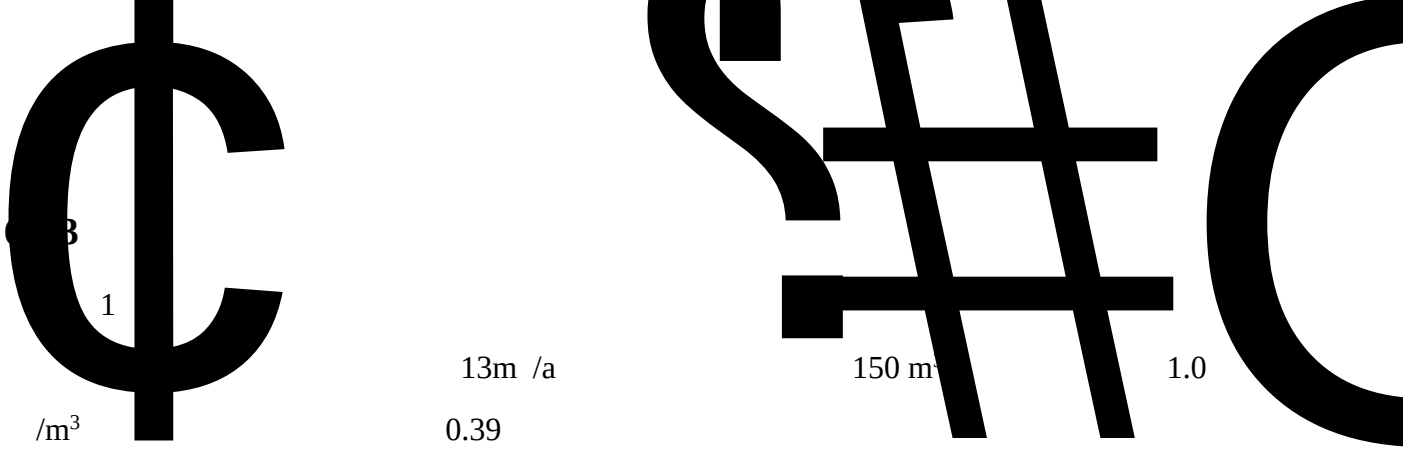
5.3

5.3-1 2365.77

313.1 13.23%

5.3-1

6



1

13m /a 150 m 1.0

/m^3 0.39

2

2018

1 1 ô 0>

"Ä@ñ0 Twb5 Ê

307.371 /

307.761 /

6.3

1

$R=R_1/R_2$

R—— R_1—— 20 9646.6

R_2—— 20 607.1

R=15.88

7

7.1

7.1.1

7.1.1.1

2~3

1

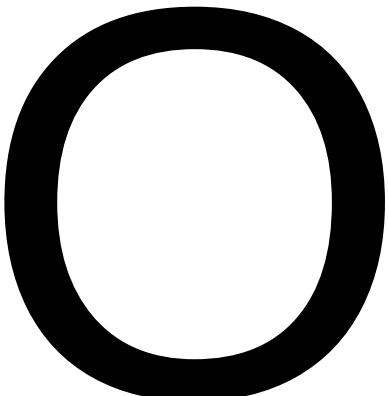
2

7.1.3

7.1-1

7.1-1

+C1K



1

2

3

4

5

6

7

7.1.4.3

ISO14000

2007 48

7.1-2

+ “ ” 25m			1 2 3	1
			4	
			5 6 7 30 8 9 10 11	95% 2 3

12

13

7.2

7.2.1

7.2-1

7.2.2

COD0.0004 t/a 0.0001t/a

SO2 0.192 t/a 1.796 t/a 3.14 t/a

7.2-1

					m^3/h		**t/a**	**mg/m^3**	**kg/h**	**(m)**	**(m)**	
							0.81					GB18599-2001 2013
							0.5	/	/	/		(GB18597-2001) 2013
		/	/		/	/	/	/	/	/		GB12348-2008

7.2.3

( ) 1şşt 4Ũš

1

1şşt 4Ũš

5

-

GB15562.1-1995

5

6

7.3

7.3.1

6

7

“ ”

“ ” 7.4-1

		GB 18599-2001		
		GB18597-2001		GB18597-2001
			“ ”	
			“ ”	

8

8.1

4 3052m^2

1 /

10000 4800 /

1700 / 3500 /

2019

8.3.2

172.8t/a

8.3.3

55~65dB A

8.3.4

1.35t/a 0.81t/a 0.5 t/a

2225.213t/a 171.687t/a

8.4

8.4.1

8.4.2

GB18918-2002 B

8.4.3

8.4.4

200m

GB12348-2008 3

8.4.5

GB18597-2001

8.4.6

10 20 30

8.4.7

8.5

8.5.1

2 1 1

25m

(GB31574-2015)

3

8.5.2

8.6

15.88 5.66

8.7

8.8