4.2 128
4.3 134
4.4 142
..... 145
4.6 146
4.7 146
4.8 147

5.1 148
5.2 149
5.3 149
5.4 150
5.5 151
5.6 156
5.7 156
5.8 158

6.1 159
6.2 159
6.3 160

7.1 162
7.2 167
7.3 169
7.4 172

8.5 188
8.6 188
8.7 190
8.8 190
8.9 190

1
2
3
4
5

1
2
3
4
5
6
7 190
8
9
10
11
12
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19

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9

10

11 S103

12

13

14

15

16



2015 “ ”

4km

2025

95%

BKT

“ ” 1958

1965 41 1996

520

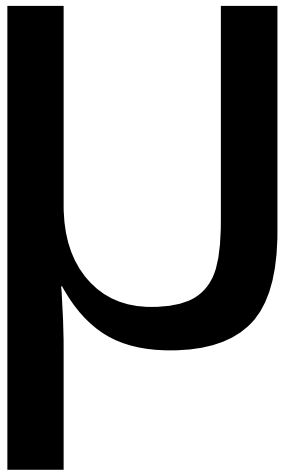
“ ” “ ”

2000

153hm^2

1280

250



“ ”

“ ” 13 88 ″

2 1#

4 2# 7 3#

6 7 2.6

0.4 2.2

25.4 324.2

2019 7 23

2019-520123-29-03-204676

3458.28 8

3#

682

1 “

” “ 46 ” “

”

2019 8 28

9

2019 8

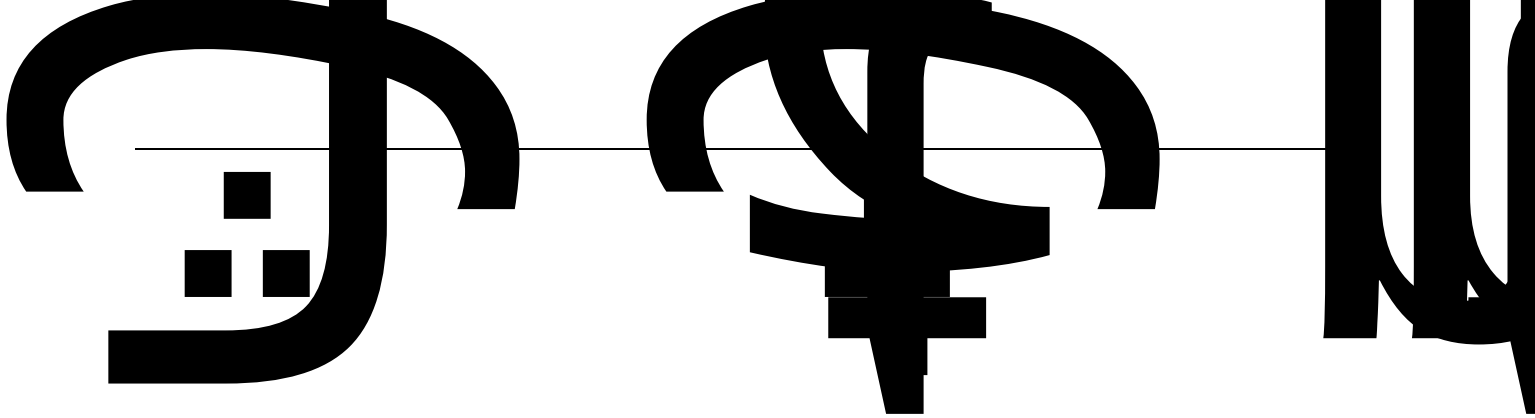
2019 9



2012 7

3

1



m A

1

2

3

1 2015 1 1

2 2018 12 29

3 2017 6 27

4 2018 10 26

5 2018 12 29

6 2016 11 7

7 2019 1 1

8 2016 7 2

9 2010 12 25

10 2014 7 29

11 2016 2 6

12 2018.10.26

13 2015 4 24

14 2014 7 29

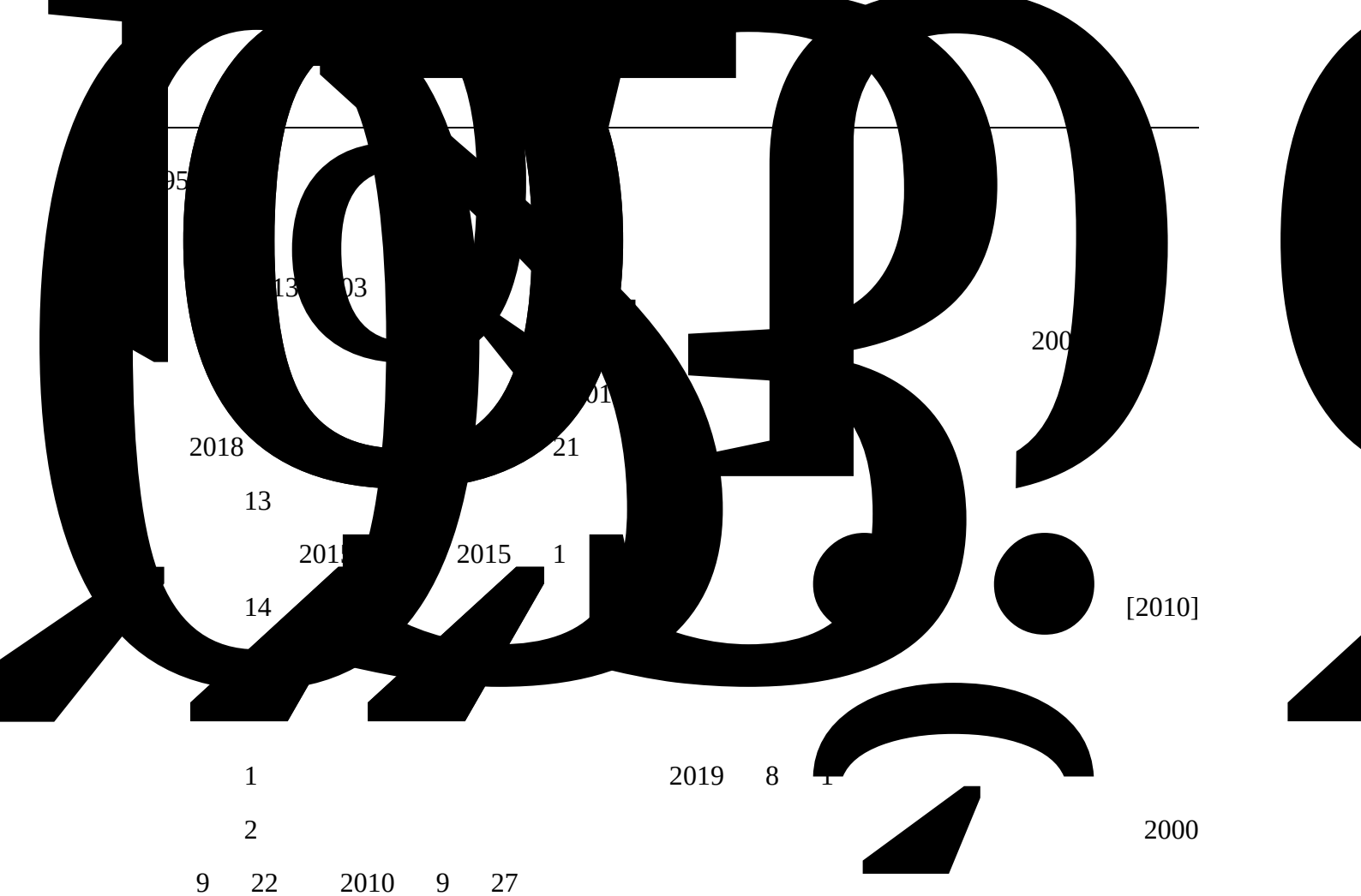
15 2000 3 20

16 2011 1 8
17 2016 2 6
18 1996 9 30
19 2014 12 1
20 2016 7 2
21 2009 1 1
22 2013 37
23 2015 17
24 2016 31
25 2005 39
26
2012 2
27 2017 6 21 682

1 2000
38
2 2001 19

3 1 2018 4
28
4 4 2019 1 1

5 < >
2018 48 2018 10 16
6 2011
150
7 2012
77
8 2016 39
9 “ ” 2016



95

13 03

200

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2018 21

13

201 2015 1

14 [2010]

1 2019 8 1

2 2000

9 22 2010 9 27

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1998 52

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2012 11

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2012 19

6 2016

32

7 < > 2018 16

8

13

2011 26

14

2012 15

15 2018 11 29

16 2018 11 29

17 2017 9 30

18 2015 39

19 2014 13

20 2016 31

21

2018 303

22 2018 11 29

23 “ ”

1998 37 1998.11.25

24 2005.9.30

25 2009.7.29

26 1997.11.21

27 2009.10.1

28 2010.3.1

29 2004.9.25

30 2005.6.7

31

[2010]12 2010.11.8

88

32 [2010]16 2010.11.7

33 2018 16

2018.

1 HJ2.1-2016

2 HJ2.2-2018

3 HJ2.3-2018

4 HJ2.4-2009

5 HJ610-2016

6 HJ1.9-2011

7 HJ169-2018

8 HJ 964-2018

9 GB50433-2008

10 HJ/T91-2002

11 HJ/T94-2005

12 HJ/T90-2004

13 HJ/T 192-2015

14 GB50434-2008

15 GB3096-2008

16 GB 3838-2002

17 GB 3095-2012

1

2

3

4

5

6

7

III

GB3838-2002 III

III

GB/T14848-2017 III

2

2

1

HJ2.3-2018 н

1.5-4

		kg/a	m	m	m
		5.61	10	50	20
		1.20			
		30.83	10	11	5.5
		6.61			

1.5-5

/

/

77544

35.4℃

-1.9℃

1 HJ2.2-2018

GB3

2

<3dB A

HJ2.4-2009

ç ل ;

1.5-8

	I			II			III		
									-
								-	-
“ - ”									

HJ 964-2018 A “ ”

“ ” III

153hm^2

1.5-9

	Pi 1.97% 1% 10%	
	2 3dB A	
		B
	II	
	III	

1.5-10 2

3

1		200m
2		5km
3		2km 3km
4		63.78km^2
5		200m
6		
7		50m

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

O_3 TSP CO NO_X H_xC

	1,4- + 2- [a] [a] [b] [k] [a,h] [1,2,3-cd]		+ 2- [a] [a] [b] [k] [a,h] [1,2,3-cd]

“

“ ”

2019 42 ”

10

1

III

GB3838-2002 III 1.6-1

1	pH	6 9
2	COD	≤20
3	BOD_5	≤4
4	SS	≤30*
5	NH_3-N	≤1.0
6		≤0.2
7	TP P	≤0.2
8		≤0.2
9	F^-	≤1.0
10		≤0.05
11	/L	≤10000
“ * ”	SL63-94	

2

GB/T14848-2017 III

1	pH	6.5 8.5
2	N mg/L	≤0.5
3	* COD_{MN} O_2 mg/L	≤3.0
4	mg/L	≤1000
5	mg/L	≤450
6	mg/L	≤0.05
7	N mg/L	≤20.0
8	N mg/L	≤1.00
9	mg/L	≤0.002
10	MPN/100L	≤3.0

GB3095-2012 1.6-3

1

		24	300	
8	*		2	mg/m^3
P244				

2 GB3096-2008 2

1.6-4

	60	50	2

GB36600-2018 1.6-5

1		60	140
2		65	172
3		5.7	78
4		18000	36000
5		800	2500
6		38	82
7		900	2000
8		2.8	36
9		0.9	10
10		37	120
11	1,1-	9	100
12	1,2-	5	21
13	1,1-	66	200
14	-1,2-	596	2000
15	-1,2-	54	163
16		616	2000
17	1,2-	5	47
18	1,1,1,2-	10	100
19	1,1,2,2-	6.8	50

20		53	183
21	1,1,1-	840	840
22	1,1,2-	2.8	15
23		2.8	20
24	1,2,3-	0.5	5
25		0.43	4.3
26		4	40
27		270	1000
28	1,2-	560	560
29	1,4-	20	200
30		28	280
31		1290	1290
32		1200	1200
33	+	570	570
34		640	640
34		76	760
36		260	663
37	2-	2256	4500
38	[a]	15	151
39	[a]	1.5	14
40	[b]	15	151
41	[k]	151	1500
42		1293	12900
43	[a,h]	1.5	15
44	[1,2,3-cd]	15	151
45		70	700
A			3.6

GB27632-2011 2

GB/T19923-2005 1.6-6

1	pH	6 9	6.5~9.0	
	COD	70		
3	BOD_5	10	10	
4	SS	10	30	
5	NH_3-N	5	10	
6	TP	0.5	1.0	
7	TN	10	10	
8		1	1.0	
9	m^3/t	7	/	

GB16297-1996

2

GB 27632-2011 5 6

GB 37822-2019

GB14554-93 1.6-7~1.6-10

		mg/m^3
TSP		1.0

mg/m^3 m^3/t

GB 2763 ụ6 :

		mg/m^3		
GB 37822-2019	NMHC	10	1h	
		30		

mg/m^3

1.7-2

1.7-2 4

			m		
		200	S	40-300	
		50	W	50-300	GB3095-2012
		350	N	30-300	
		70	S	40-200	
		20	W	50-200	
		130	N	30-200	GB3096-2008 2
		“ ”	SE	220	
		0.19m^3/s III	W	70	GB3838-2002 III
		1.28m^3/s III	WN	2000	
		5~7L/s · km^2	---	---	
			S	100	
			WS	1200	
			E	1600	GB/T14848-2017 III
		6 132	N	1600	
		5 350	NE	2300	

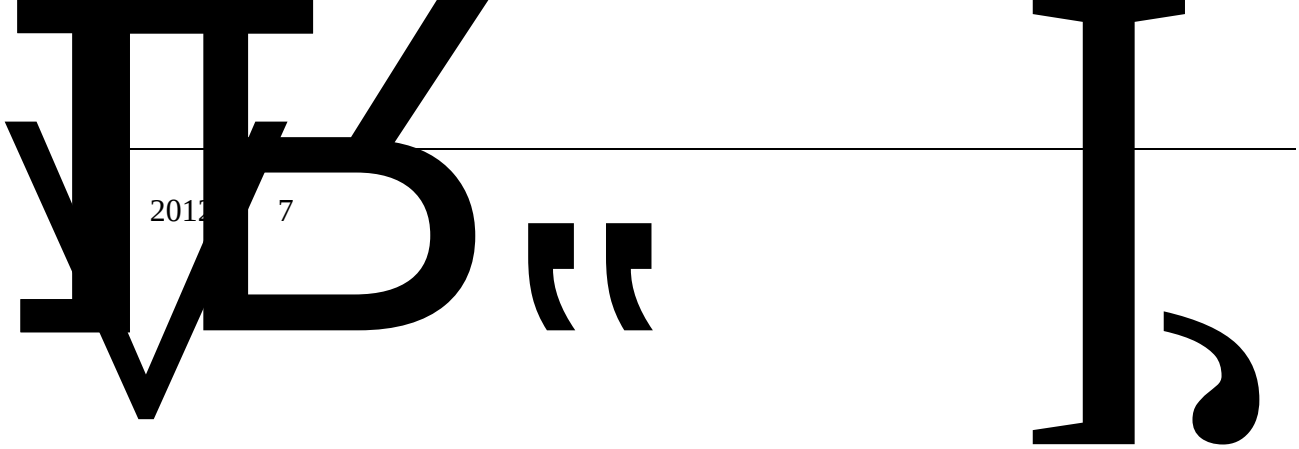
100 NE 3000

- 3

178 NE 3500

⁄...

E



2018 16

2017

5

2018 16

2018 303

1958

1996

A “ ”

42.34 m^2

46 m^2 65% 1.09 7763 1588

91

4 20t

2017 3 2015 6

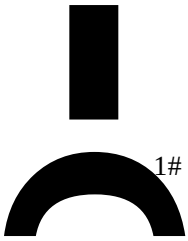
2019 5

2020 12

2015

2020

12



2 35t/h 1 H60m H120m

1

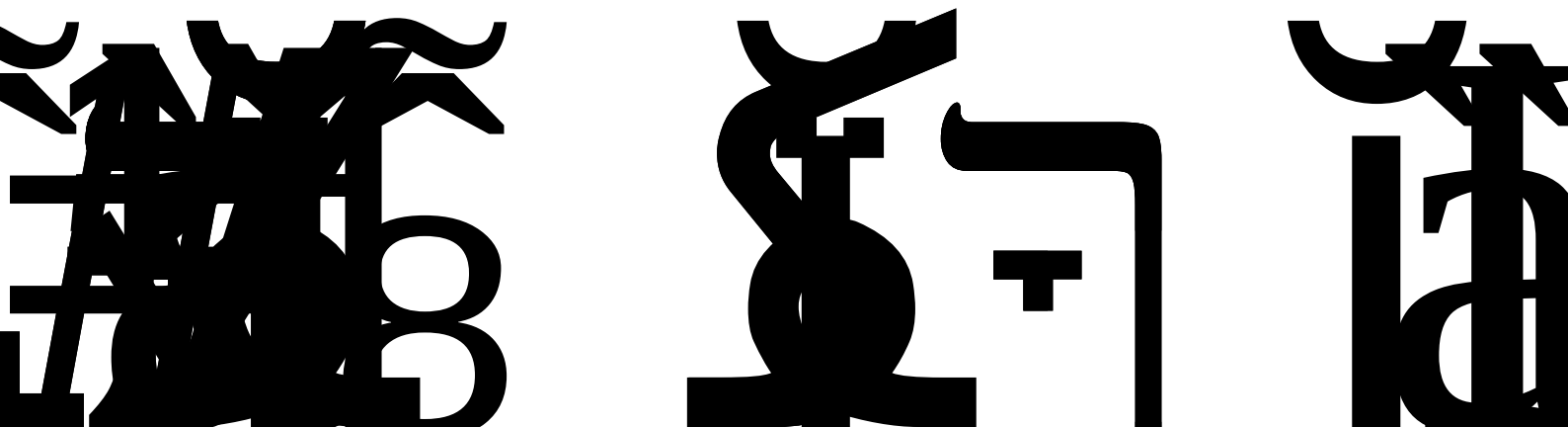
1# 4# 5#

1#~3# 1# 2# 4#

2# 3# 4#

5#

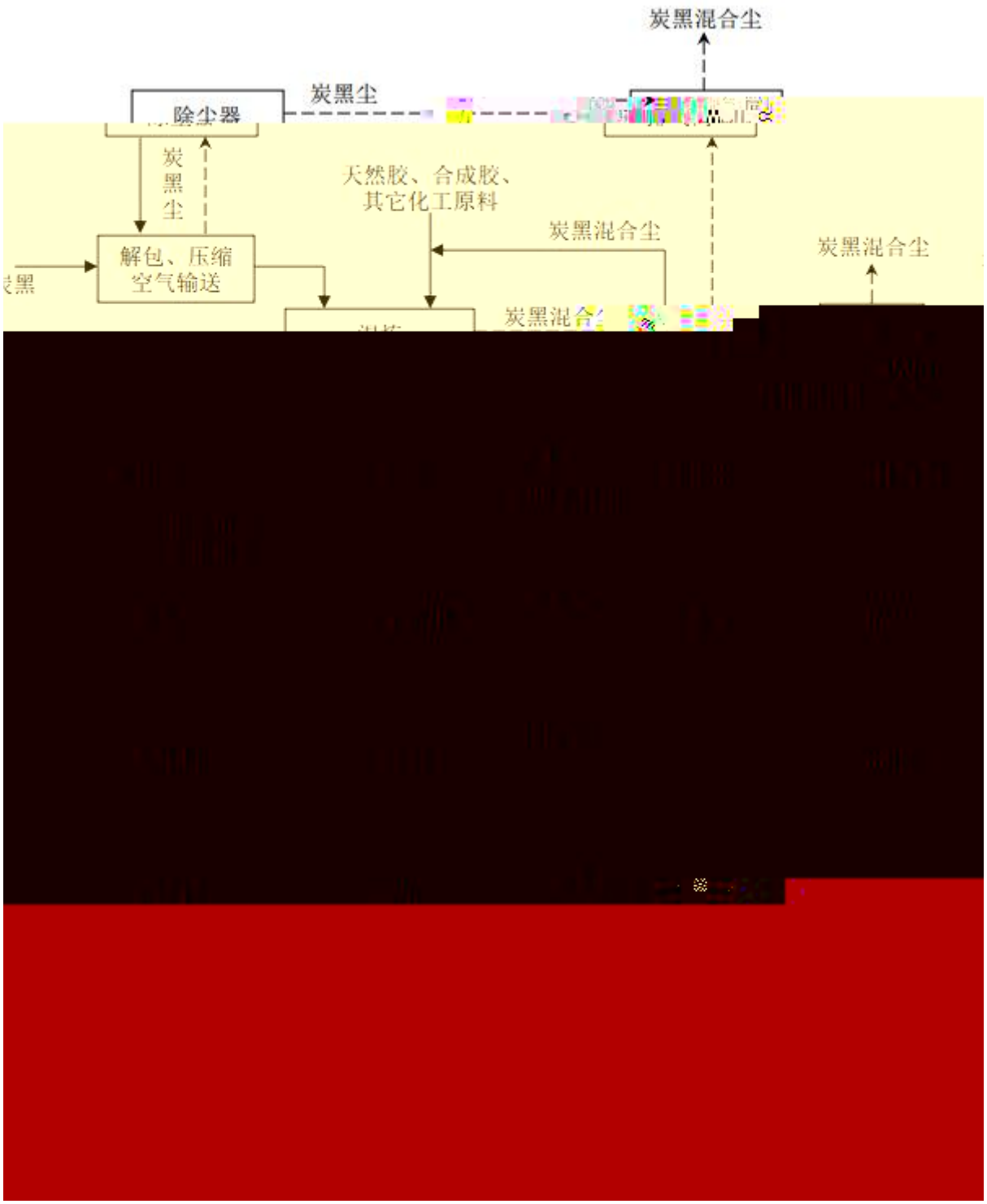
6#



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2.1-1



× þ × ÂoW

	26	325	490 190 300	841
2018	20	310	20	350
	25	322	/	347
	1	3	/	4
				/

2.1-3~ 2.1-6

2.1-7~ 2.1-10

2.1-11~ 2.1-14

			[dB A]	m		[dB A]	
		12	85	5		≤65	
		40	85	5		≤65	
		15	85	5		≤65	
		4	85	5		≤65	
		8	85	5			
2#		9	85	10		≤65	
		18	85	25		≤65	

/

t/a	t/a	t/a
16183	16183	0
17963	17963	0
14530	14530	0
2089	2089	0
1358	1358	0
200	200	0

	m^3/h		mg/m^3	kg/h	/ m	m	m				mg/m^3	kg/h
3#	148896		2	0.3	25/12	22	0.5	50	12 η=99%		12	1.87
	643896	NMHC	9	5.69	25/12	22	1	60	-		10	31.4
			5000						1		5000	
	150000	NMHC	3.5	0.53	8/24	10	1	60	-		10	2.2
	250000		37	9.18	1/-	60	3	65	η=99%		80	/
		SO_2	343	85.70					η=76.67%		550	/
		NOx	230	57.50							400	/

		m^3/d	kg/d	mg/L	m^3/d	kg/d	mg/L		
	BOD_5	849.01	84.90	100	409.01	4.09	10		
	COD		169.80	200		24.54	60		
	SS		152.82	180		4.09	10		
			4.25	5		0.41	1		
	NH_3-N		6.79	8		2.05	5		

			[dB A]	m		[dB A]	
		12	85	5		≤65	
		40	85	5		≤65	
		15	85	5		≤65	
		4	85	5		≤65	
		8	85	5			
		9	85	10		≤65	
		18	85	25		≤65	

		m^3/h		mg/m^3	kg/h	mg/m^3	kg/h		mg/m^3	m^3/t	/ m	m	m		
		220000		200	44	2	0.44	η=99%	12	2000	22/16	21	0.5	50	
		770000	NMHC	10	7.7	10	7.7	-	10	2000	22/16	21	1	60	
				10000		4000		η=60%	4400						
		500000		3673	1836.38	37	18.36	η=99%	50	-	1	120	3.5	65	
			SO_2	2449	1224.25	300	149.85	η=79.6%	300	-					
			NOx	230	115	230	115		300	-					
		24000		15	0.36	2	0.05	87%	2	-	-	-	-	25	

		m^3/d	kg/d	mg/L		kg/d	m^3/d	kg/d	mg/L	m^3/d	kg/d	mg/L	
	BOD_5	1108.56	110.86	100		100.37	365	3.65	10	683.56	6.84	10	GB27632-201 1 2
	COD		221.71	200		158.80		21.90	60		41.01	60	
	SS		199.54	180		189.06		3.65	10		6.84	10	
			5.54	5		4.49		0.37	1		0.68	1	
	NH_3-N		8.87	8		3.63		1.83	5		3.42	5	

		[dB A]	m		[dB A]	
	33	85	10		≤65 ≤55	
	3	85	5		≤65 ≤55	
	21	85	5		≤65 ≤55	
	22	85	25		≤65 ≤55	

		t/a		/ t/a	t/a	
		15884		15884	0	
		17630		17630	0	
		14199		14199	0	
		12822		12822	0	
		1955		0	1955	
		150		150	0	
		1155	-	-	1155	

190

2.1-15

2.1-15 190

2.1.2.7

24m

3 4 5 2

C[illegible]-100

6000-18000m^3/h 8

CMD-9F

540-1620m^3/h 8

8 9

CMD-100

600-18000m^3/h

24m

1 DCM60 20

DCM6

540-/ ╝ 5

			60m	37.9kg/h 20.4mg/m^3 0.9k/h	GB13271-2014 1
				0.1mg/m^3 0.0008kg/h	GB18483-2001
			2400m^3/d 680m^3	PH 7.61~7.74 TN 5.70mg/L 0.16mg/L SS9mg/L BOD_5 6.0mg/L COD 14mg/L TP 0.27mg/L NH_3-N 0.157mg/L	GB27632-2011 2
				/	
				53.1dB A ~59.6dB A 46.6dB A ~48.8dB A	GB12348-2008 2
			H22m	B11-1 TSP 6.6mg/m^3 0.68mg/m^3	GB27632-2011 5 TSP 12mg/m^3 10mg/m^3
				B11-2 TSP 3.7mg/m^3 0.61mg/m^3	
				B10-1 TSP 7.4mg/m^3 0.58mg/m^3	

				B10-2	TSP 2.9mg/m^3	0.45mg/m^3		
				B9	TSP 4.9mg/m^3	0.27mg/m^3		
H23m		11		B5	TSP 5.7mg/m^3	0.32mg/m^3	GB14554-93	2
	99%		1	B4	TSP 2.5mg/m^3	0.27mg/m^3		5600
		11		B3	TSP 1.5mg/m^3	0.39mg/m^3		
				B2	TSP 5.3mg/m^3	0.27mg/m^3		
				B1	TSP 2.6mg/m^3	0.29mg/m^3		
				B0-1	TSP 4.3mg/m^3	0.44mg/m^3		
				B0	TSP 3.8mg/m^3	0.31mg/m^3		
					1737~2291			

B8	TSP [illegible]mg/m³	[illegible]mg/m³
B9-1	TSP [illegible]8mg/m³	0.32mg/m³
B9-2	[illegible].7mg/m³	0.40mg/m³
B10-1	TSP 5.8mg/m³	0.39mg/m³
B10-2	TSP 5.6mg/m³	0.38mg/m³
B10-3	TSP 5.4mg/m³	0.40mg/m³
B11-1		

lmw̄ m"r `



				ACF1-1	1.13mg/m^3 1318
				ACF1-2	1.36mg/m^3 1528
1				ACF2-1	0.73mg/m^3 1632
0					2.41mg/m^3 1423
				ACF1-1	1.96mg/m^3 1528
				ACF10-1	2.74mg/m^3 1338
		H21m	10	ACF10-2	1.00mg/m^3 1338
				BCF6-2	1.36mg/m^3 1632
				ACF8-1	2.03mg/m^3 1737
				ACF8-2	2.23mg/m^3 1528

190

2.1-16

ω ḍ

1 2

2 3

3

“ ”

190



2.1-16

300m

2017 3 31 2018

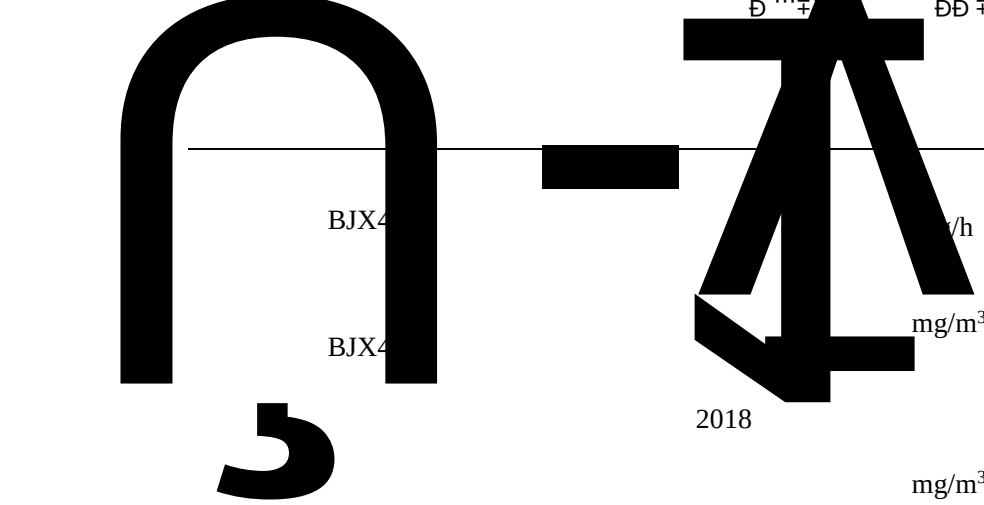
3 22 2019 9

		2018		
A1-2			mg/m^3	ND
			kg/h	/
		JCC2-1	mg/m^3	ND
			kg/h	/
			mg/m^3	ND
	XCC4-1		kg/h	/
			mg/m^3	ND
	XCC5-1		kg/h	/
			mg/m^3	7.8
	XCC6-1		kg/h	0.013
			mg/m^3	11.4
	XCC7-1		kg/h	0.049
			mg/m^3	ND
	XCC102		kg/h	/
			mg/m^3	ND
	ARX701		kg/h	/
			mg/m^3	6.0
	AJX702		kg/h	0.031
			mg/m^3	ND
	ARX601		kg/h	/

ARX301		mg/m^3	ND
		kg/h	/
BRX1002		mg/m^3	ND
		kg/h	/
BRX1102		mg/m^3	4.2
		kg/h	2.8 10^{-3}
BRX402		mg/m^3	ND
		kg/h	/
BJX1103		mg/m^3	ND
		kg/h	/
BJX1003		mg/m^3	ND
		kg/h	/
BJX403		mg/m^3	ND
		kg/h	/
BOX1101		mg/m^3	ND
		kg/h	/
BOX1001		mg/m^3	6.9
		kg/h	0.029
BXX1002		mg/m^3	<20
		kg/h	/
BXX401		mg/m^3	ND
		kg/h	/
XCC3-1		mg/m^3	9.8
		kg/h	0.052
AJX402		mg/m^3	10.5
		kg/h	0.060
AJX302		mg/m^3	ND
		kg/h	/

BXX1102		mg/m^3	10.8
		kg/h	0.056
2018			
ARX301		mg/m^3	6.7
		kg/h	0.028
AJX301		mg/m^3	9.4
		kg/h	9.2 10^{-3}
ARX401		mg/m^3	ND
		kg/h	/
AJX402		mg/m^3	10.4
		kg/h	8.4 10^{-3}
AJX502		mg/m^3	ND
		kg/h	/
ARX501		mg/m^3	ND
		kg/h	/
ARX601		mg/m^3	ND
		kg/h	/
AJX602		mg/m^3	11.1
		kg/h	0.054
ARX701		mg/m^3	ND
		kg/h	/
ARX702		mg/m^3	8.5
		kg/h	0.062
A1-2		mg/m^3	4.5
		kg/h	0.016
AJX101		mg/m^3	ND
		kg/h	/
XCC3-1		mg/m^3	7.0
		kg/h	0.026

	mg/m^3	ND
JCC251	kg/h	/
	mg/m^3	4.7
XCC4-1	kg/h	7.5 10^{-3}
	mg/m^3	ND
XCC5-1	kg/h	/
	mg/m^3	ND
XCC6-1	kg/h	/
	mg/m^3	10.8
XCC7-1	kg/h	0.034
	mg/m^3	ND
BRX1103	kg/h	/
	mg/m^3	7.7
BRX1102	kg/h	8.7 10^{-3}
	mg/m^3	3.1
BRX1002	kg/h	4.1 10^{-3}
	mg/m^3	10.0
BOX1101	kg/h	0.037
	mg/m^3	ND
BOX1102	kg/h	/
	mg/m^3	ND
BXX1002	kg/h	/
	mg/m^3	10.6
BOX1001	kg/h	0.031
BXX401		



	BJX4	/h	/
		mg/m³	ND
	BJX4		/
	2018		
		mg/m³	ND
	ARX301	kg/h	/
		mg/m³	8.4
	AJX301	kg/h	0.066
		mg/m³	ND
	ARX401	kg/h	/
		mg/m³	ND
	AJX402	kg/h	/
		mg/m³	ND
	ARX502	kg/h	/
		mg/m³	ND
	ARX601	kg/h	/
		mg/m³	ND
	ARX701	kg/h	/
		mg/m³	7.2
	AJX602	kg/h	0.015
		mg/m³	3.4
A7		kg/h	7.8 10^{-3}
		mg/m³	ND
	XCC4-1 XCC5-1 XCC6-1	kg/h	/
		mg/m³	ND
	XCC1-1 XCC3-1	kg/h	/
	A2		

A7		mg/m³	ND
		kg/h	/
A10		mg/m³	ND
		kg/h	/
BJX903		mg/m³	ND
		kg/h	/
BOX1101		mg/m³	ND
		kg/h	/
BXX1102		mg/m³	ND
		kg/h	/
BOX1001		mg/m³	ND
		kg/h	/
BJX1103		mg/m³	6.5
		kg/h	0.013
	2019		
	A3RX	mg/m³	ND
		kg/h	/
	A4RX	mg/m³	ND
		kg/h	/
	A5RX	mg/m³	ND
		kg/h	/
	A6RX	mg/m³	ND
		kg/h	/
	A7RX	mg/m³	ND
		kg/h	/
	A3JX	mg/m³	10.8
		kg/h	0.079
	A4JX	mg/m³	2.8
		kg/h	0.021

A5JX	mg/m³	2.3
	kg/h	0.014
AJX602	mg/m³	11.3
	kg/h	0.075
A7	mg/m³	ND
	kg/h	/
XCC4-1 XCC5-1 XCC6-1	mg/m³	ND
	kg/h	/
XCC1-1 XCC3-1	mg/m³	ND
	kg/h	/
A2	mg/m³	ND
	kg/h	/
A7	mg/m³	ND
	kg/h	/
A10	mg/m³	ND
	kg/h	/
BRX1102	mg/m³	5.8
	kg/h	0.014
BRX1002	mg/m³	4.7
	kg/h	0.011
B9XX	mg/m³	11.0

	B10XX			mg/m³	ND
				kg/h	/
	B10OX			mg/m³	ND
				kg/h	/
	BJX1103			mg/m³	ND
				kg/h	/
	BJX903			mg/m³	9.7
				kg/h	0.052
	B11OX			mg/m³	10.8
				kg/h	0.034
		2019			
	A6JX			mg/m³	5.9
				kg/h	0.043
	A3JX			mg/m³	6.8
				kg/h	0.023
	A7XX			mg/m³	9.7
				kg/h	0.039
	BOX1101 0			mg/m³	9.5
				kg/h	0.036
	BXX1002			mg/m³	5.5
				kg/h	0.029
		GB27632-2011	5	TSP	12mg/m³

1.ND

2. “ / ” 20mg/m³

					GB27632-2011	
	2018	2019	2019			
PH	7.20-7.25	7.25-7.43	7.47-7.63		6 9	
	26	4.8-5.5	26.7-27.2		/	/
	ND	ND	ND	mg/L	10	
COD	12-17	8-12	13-16	mg/L	50	
BOD_5	3.5-5.1	2.2-2.8	2.9-3.6	mg/L	10	
	0.298-0.556	0.919-0.976	2.75.7ة76			

		kg/h	3.7	/
		mg/m^3	211	550
		kg/h	14	/
		mg/m^3	10.7	80
		kg/h	0.69	/

GB27632-2011 5

GB27632-2011 2

GB12348-2008 2

GB13271-2014 1

2

2018

2018

2018 6 5

2018 6 5 2018 12 31

300960 2018 6 5 2018 12 31 5016

5011

COD NH_3-N

4212 4211

3

2018 1

2018 12 6 ~2018 12 8 2.1-21~2.1-23



							GB3838-2002 III	
			200m	500m	500m	1000m		
pH		2018.12.6	7.92	8.01	8.37	8.06	8.14	6~9	
		2018.12.6	4.72	4.62	5.74	4.96	5.11	---	---
	m/s	2018.12.6	0.18	0.34	0.19	0.16	0.17	---	---
	m^3/h	2018.12.6	238	216	1479	481	1062	---	---
	mg/L	2018.12.6	8.71	8.04	7.21	10.2	10.1	5	
	mg/L	2018.12.6	2.0	1.8	4.7	1.9	2.7	6	
	mg/L	2018.12.6	6	4	4	8	7	---	---
	mg/L	2018.12.6	6	6	14	6	8	20	
	mg/L	2018.12.6	1.7	1.6	3.8	1.6	2.3	4	
	mg/L	2018.12.6	0.149	0.048		0.048	0.146	1.0	
	mg/L	2018.12.6	0.02	0.04	0.30	0.04	0.04	0.2	
	mg/L	2018.12.6	0.150	0.192	0.245	0.233	0.247	1.0	
	mg/L	2018.12.6	ND	ND	ND	ND	ND	0.05	
	mg/L	2018.12.6	ND	ND	ND	ND	ND	0.005	5
	mg/L	2018.12.6	ND						

2.1-21 2018

GB3838-2002 III 200m

GB3095-2012

24

0.023	0.016	0.019	0.023	0.018	0.021	0.100
0.012	0.013	0.004	0.013	0.011	0.013	0.080
0.006	0.006	0.013	0.009	0.007	0.007	0.150

.

			5.83	5.8	
			13.53	17.03	
	NH_3-N		1.2	/	/
			0.2	/	/
			0.25	0.25	
			1.13	1.33	

2018 11 6 13

COD 22.83t/a 70mg/L NH_3-N 1.58t/a

5mg/L SO_2 1314.07t/a 550mg/m^3 NOx

289.81t/a 400mg/m^3

3458.28

5 2019 11 2020 3

2020 3

1

2.6 9051t 345kg/

2

25 1

322 3 4

7 2 88

1 4 88 2 7 88 13

88

3 16.00R25

6 7

2.6

0.4 2.2

25.4 324.2

3#

2.1-25 6

7

7 2 88

1 4

2.1-28

1	t	10.009	3453
2	t	2.159	745
3	t	6.692	2309
4	t	0.258	89
5	t	0.406	140
6			

4.2-

III - n Ṛ

C 1.8-2.1

4



		21g/m^3	
N -B-	1.24 m/cm^2 107 385		

3

2.1.2.3

88 ″

B

PLC MES

345

8 8

6KV

6KV

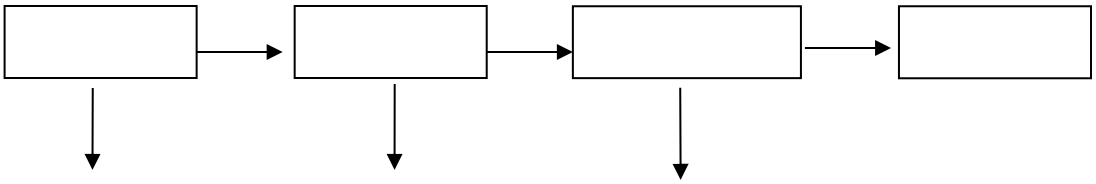
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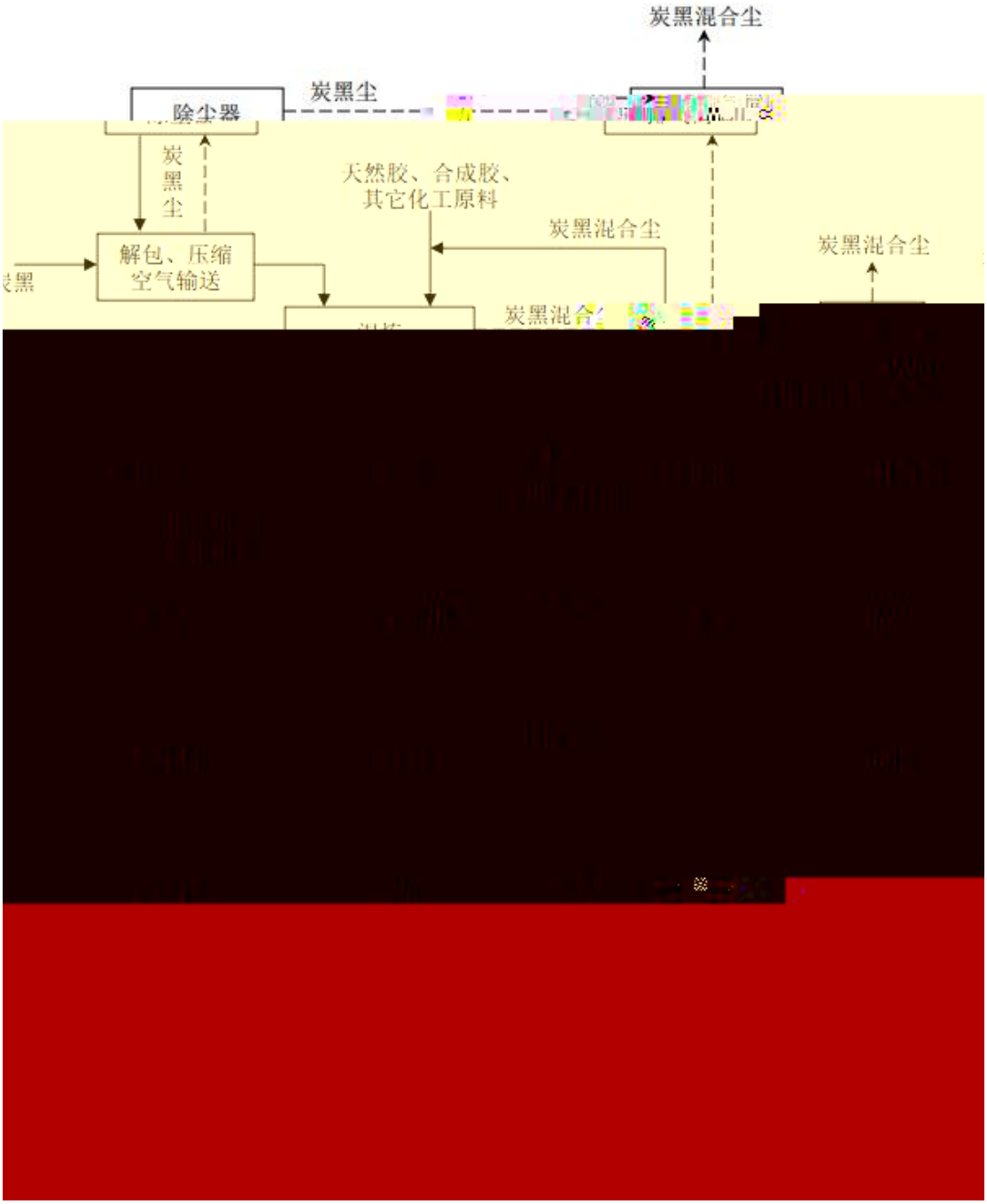
1.5 m^3

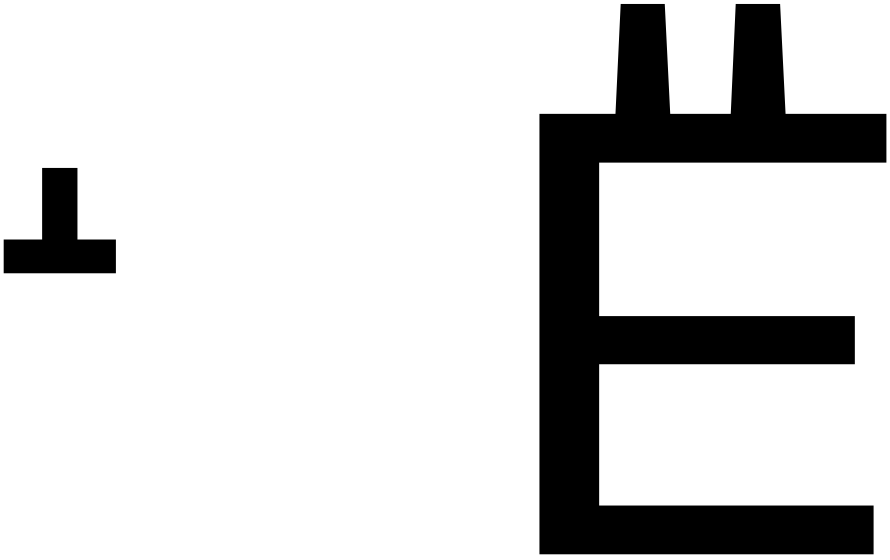
2

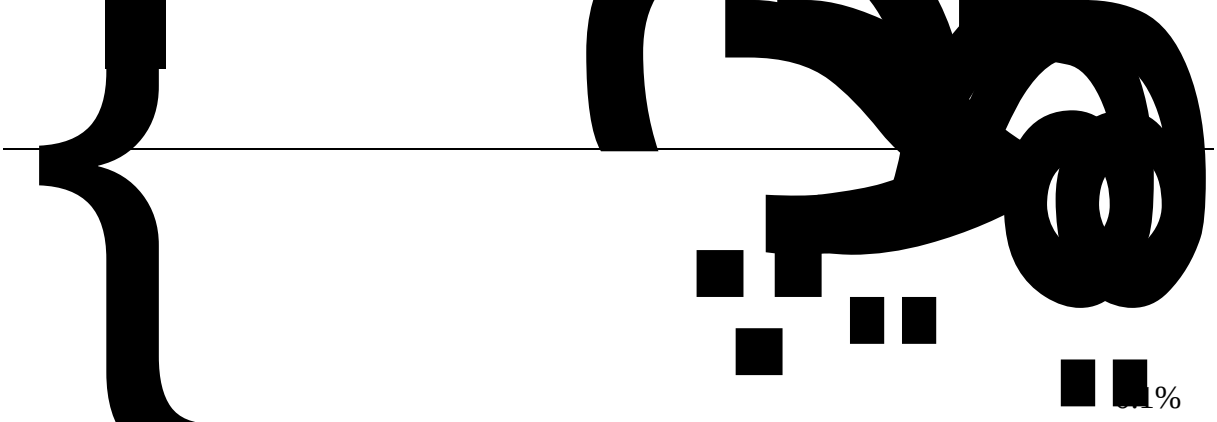
Ø ’



2.2-2


炭黑混合尘
炭黑尘
除尘器
炭黑尘
天然胶、合成胶、
其它化工原料
炭黑混合尘
炭黑混合尘
解包、压缩
空气输送





0.1%

26 260 345kg

89.7t/a

2016 “ HW08 ” 0.24t/a

“ ”

429169.65	0	0	0	0	429169.65	0

21215	89.7	0	0	0	21304.7	+89.7
4810	0	0	0	0	4810	0
250	0.24	0	0	0	250	+0.24
1926	0	0				

106°43′44″~106°44′59″ 26°50′42″~26°51′54″ 1

38km 25km

40 25km

15km 210

4km

2.6km16m 1.3km 400m

1500m 1000~1200m 1749.6m 7km

609.2m 1140.6m

832~987m 155m

1200m 1430m

1352m 1300m

1

90%



88.3km

138.8km^2 29.1km 20km^2

8000m 0.67m^3/s

100m

7.5km 11km^2

5-9 Đð R”5”)ıı(:"Ü$@[@

1200mm-5mm

III

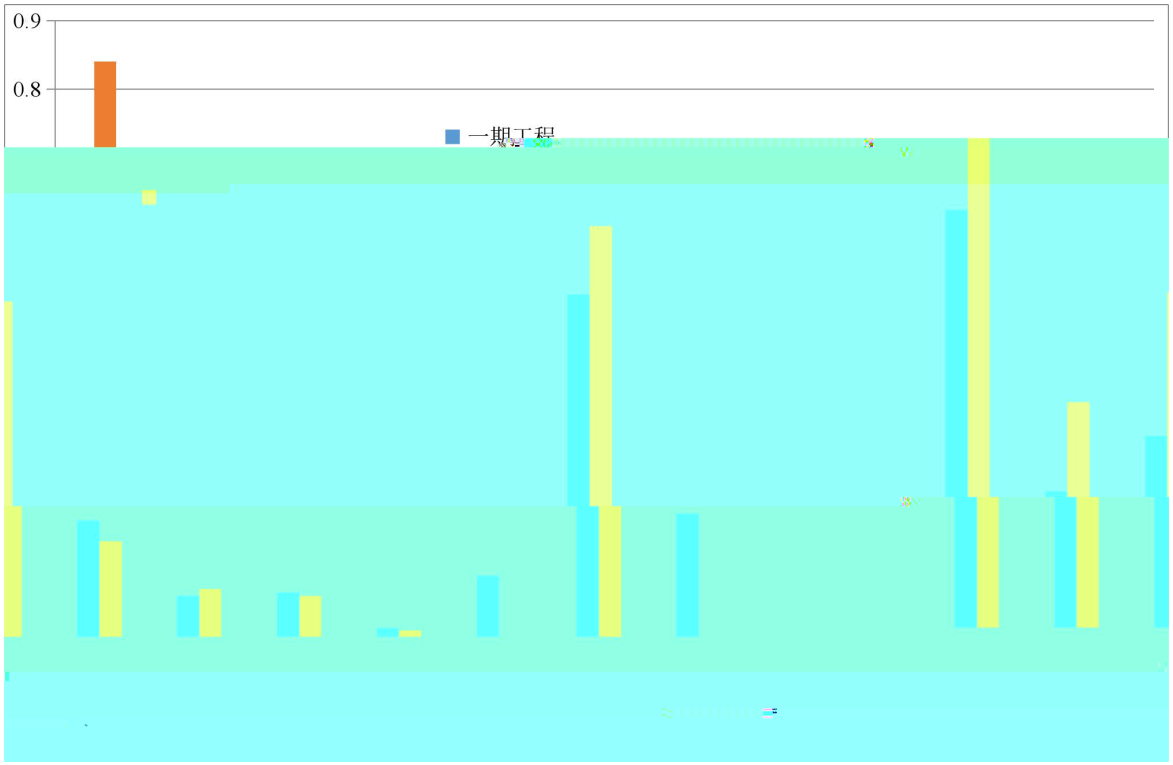
GB3838-2002 III

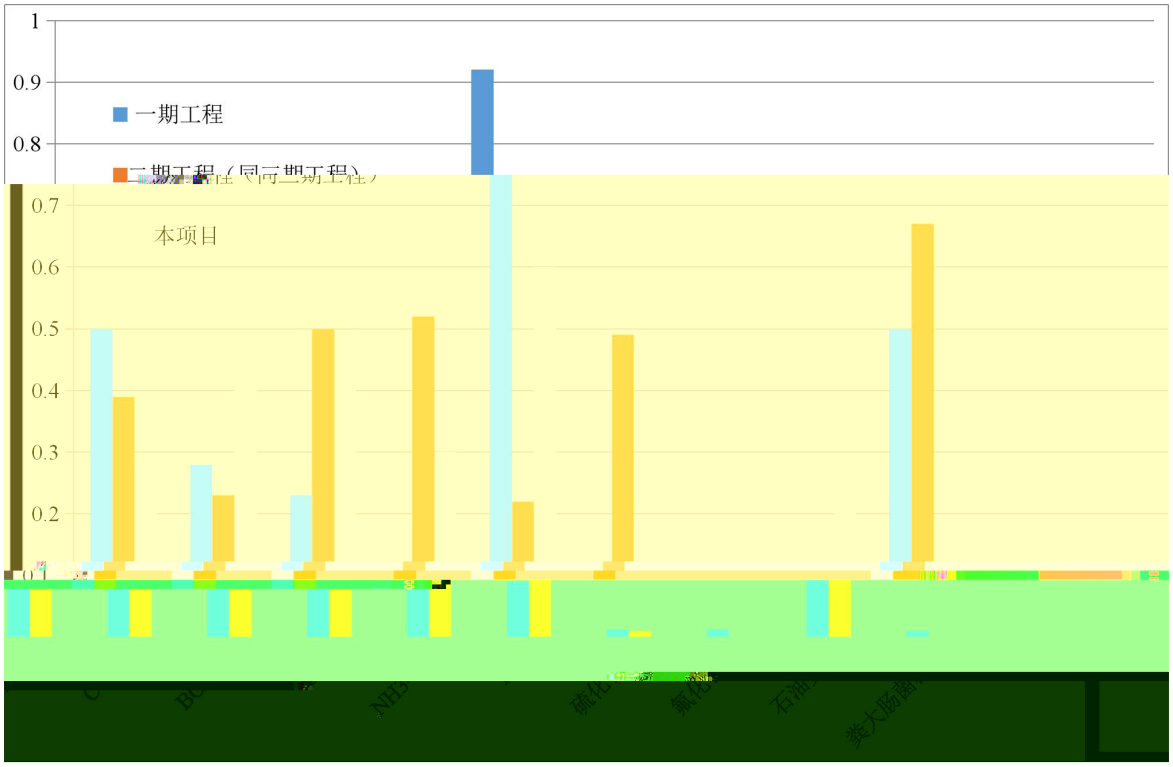
200m 70m

2000m



		W1	W2	W1	W3	W1	W3
1	pH	0.61	0.50	0.84	0.39	0.05	0.27
2	COD	0.20	0.28	0.33	0.23	0.37	0.45
3	BOD_5	0.28	0.23	0.49	0.50	0.38	0.49
4	SS	0.17	0.08	0.14	0.52	0.28	0.30
5	NH_3-N	0.06	0.92	0.07	0.22	0.22	0.60
6	TP	0.065	0.09	0.06	0.49		
7		0.013	0.013	0.01	0.01		
8		0.09	0.013	---	---	0.15	0.21
9		0.50	0.50	0.60	0.67		
10		0.18	0.01	---	---	0.04	0.09





3.2-4 3.2-1~3.2-2

GB3838-2002 III W1 COD NH_3-N W3 BOD_5 TP W1 pH BOD_5 W3 BOD_5 SS W1 TP TN W1 W3 pH W1 SS W3 COD NH_3-N

III

GB/T14848-2017 III

= 7.0 pH_j / 7.0 pH_{sd}

——pH

——pH

—— pH

—— pH

1

5

3.3-2

3.3-2

5 1

GB/T14848-2017 II

			pH									
	2019.9.10	16.7	7.35	0.055	0.8	360	252	0.004ND	0.75	0.003ND	0.0003ND	33
	2019.9.11	17.1	7.21	0.049	0.7	358	254	0.004ND	0.70	0.003ND	0.0003ND	34
Q11	2019.9.12	16.2	7.44	0.061	0.9	365	253	0.004ND	0.76	0.003ND	0.0003ND	49
		16.7	7.33	0.055	0.8	361	253		0.74			39
			6.5 8.5	0.5	3	1000	450	0.05	20	1.0	0.002	3.0
			0.22	0.11	0.27	0.36	0.56		0.04			
			0	0	0	0	0	0	0	0	0	
	2019.9.10	18.1	7.17	0.084	1.0	270	203	0.004ND	0.92	0.003ND	0.0003ND	62
	2019.9.11	18.3	7.04	0.078	1.2	275	204	0.004ND	0.86	0.003ND	0.0003ND	70
	2019.9.12	17.4	7.26	0.093	0.9	274	205	0.004ND	0.92	0.003ND	0.0003ND	79
Q2		17.9	7.16	0.085	1.0	273	204		0.90			70
			6.5 8.5	0.5	3	1000	450	0.05	20	1.0	0.002	3.0
			0.11	0.17	0.33	0.27	0.45		0.05			
			0	0	0	0	0	0	0	0	0	
	2019.9.10	15.8										

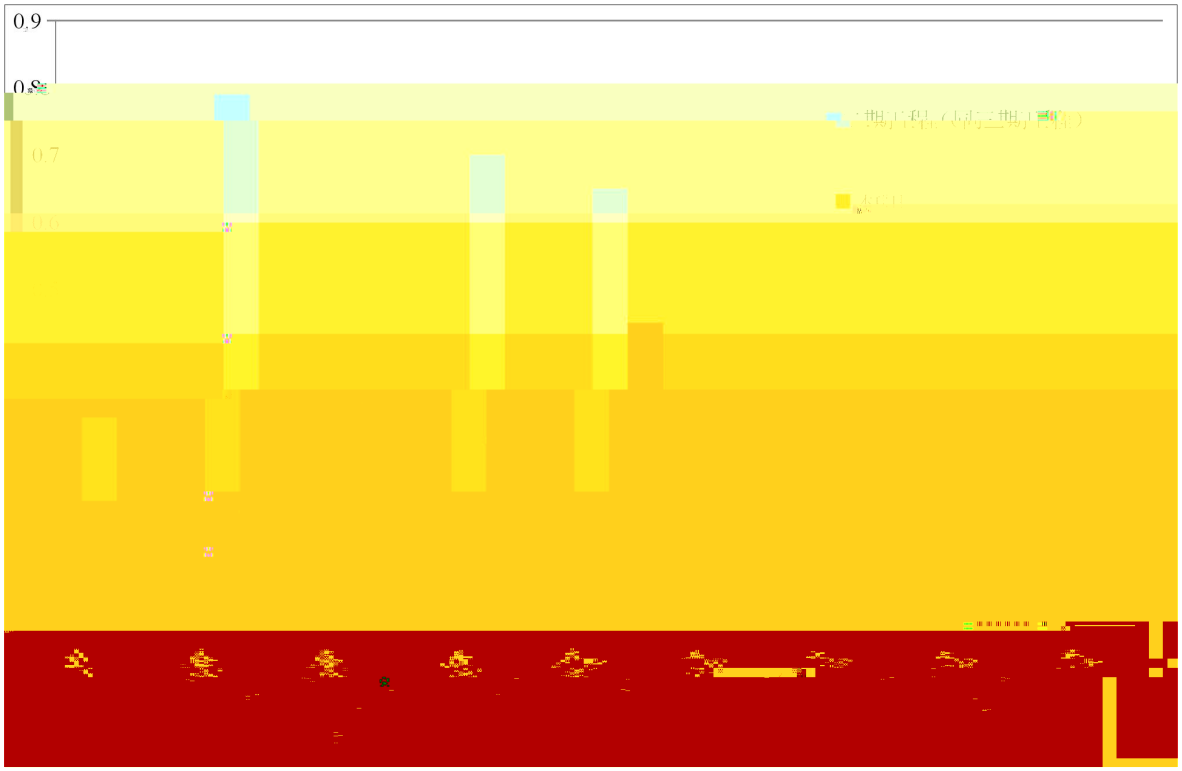
Q3

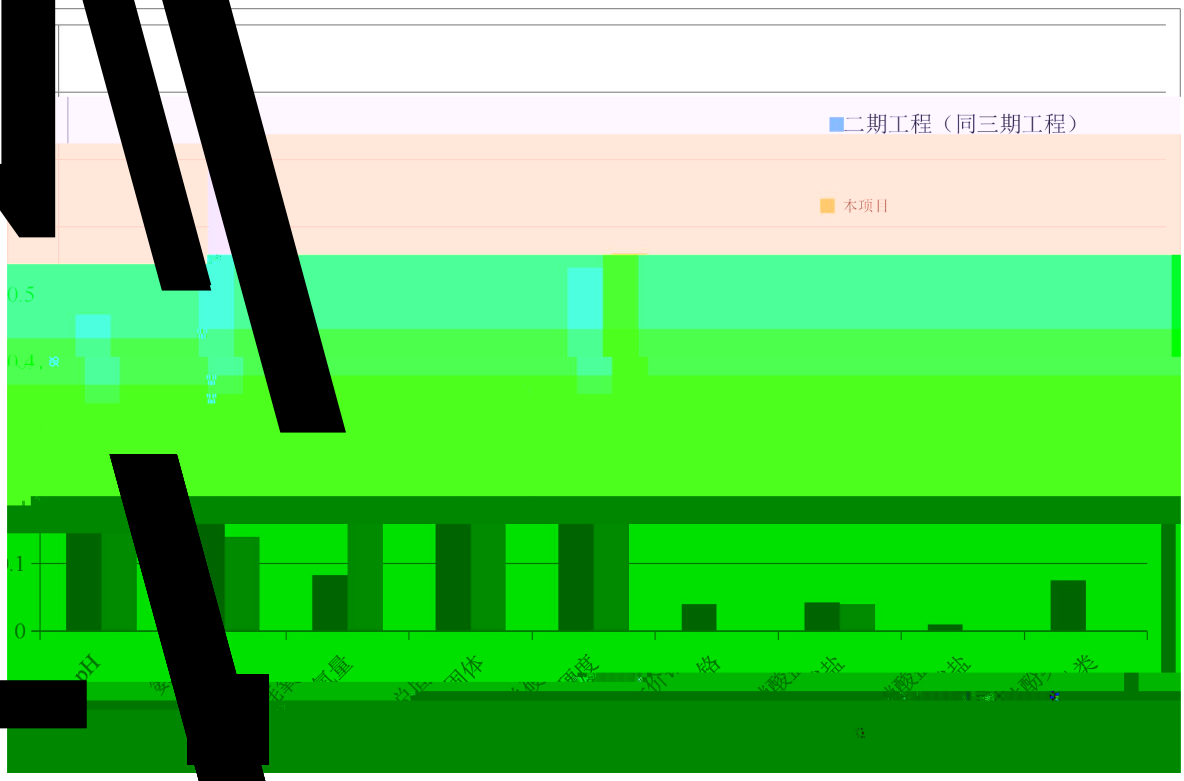
pH

3.3-3

Q1			
Q2		500	1500m
Q1	ZK1	/	
Q2	ZK2	/	
Q3	ZK4	/	
Q4	ZK6	/	
Q5	S015	/	
Q6	S013	/	
Q7、Q8	S008	/	
Q1	8	/	
Q2			

		Q7	Q5	Q2	Q4
1	pH	0.31	0.47	0.11	0.15
2		0.79	0.78	0.17	0.14
3		0.083	0.083	0.33	0.27
4		0.7	0.33	0.27	0.36
5		0.65	0.54	0.45	0.56
6		0.04	0.04		
7		0.13	0.0427	0.05	0.04
8		0.01	0.01		
9		0.075	0.075		





3.3-4 3-1~3.3-2

/T14848-2017 II Q2

Q4

50km

3

13.6 7 22.4

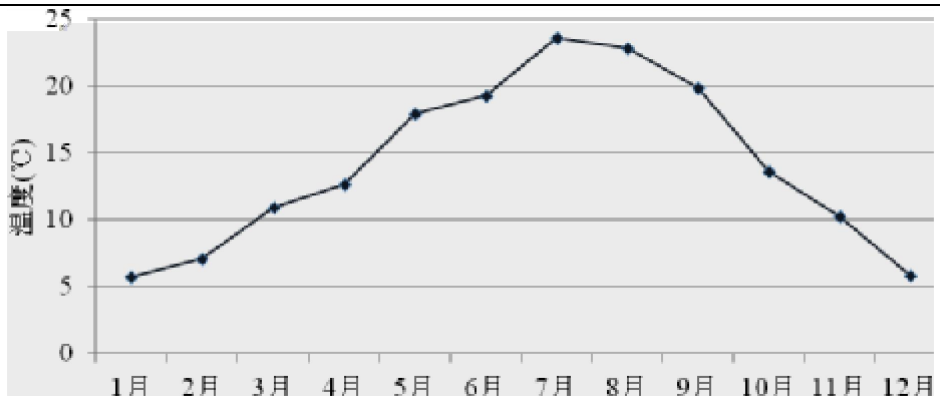
1 3.5 30 -3 1235mm

230~270d

3.4-1 3.4-2

3.4-1

	895.0	889.8	900.2	901.2	896.7
	15.5	24.0	15.1	3.7	14.4
	18.0	27.9	16.8	5.1	16.6
%	78	76	84	84	81
	138.8	226.2	98.9	50.0	1411.9
	7.7	7.7	7.9	8.5	8.0
mm	101.1	139.1	104.5	21.4	1168.3
≥0.lmm	16.4	13.6	17.1	16.2	191.4
mm	152.0	217.1	86.5	40.4	1367.7
m/s					

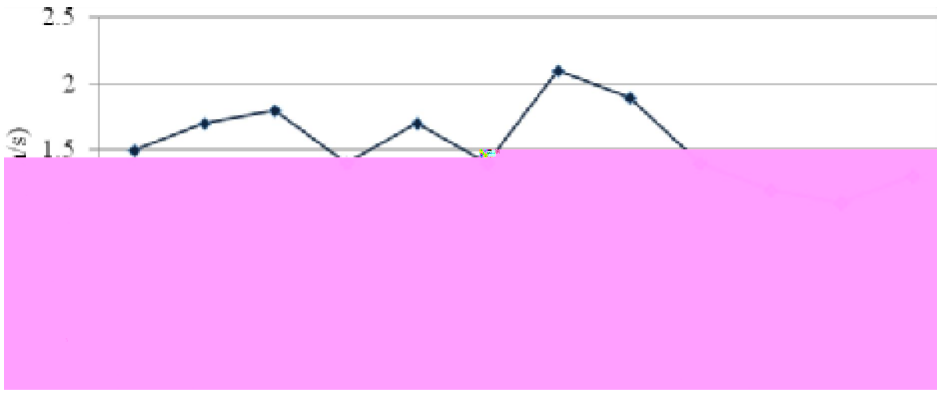


4

3.4-3

3.4-2

	1	2	3	4	5	6	7	8	9	10	11	12
m/s	1.5	1.7	1.8	1.4	1.7	1.4	2.1	1.9	1.4	1.2	1.1	1.3



A

2.2m/s

2.5m/s 2.0m/s 1.9m/s 2.2m/s

14.9%

9.1% 26.7% 19.5%

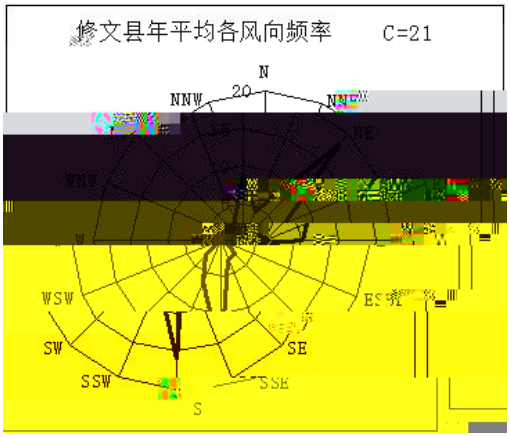
13.1% 30.4%

11.9% 8.5% 36.2%

18.3% 12.5% 26.9%

12.4% 9.9% 24%

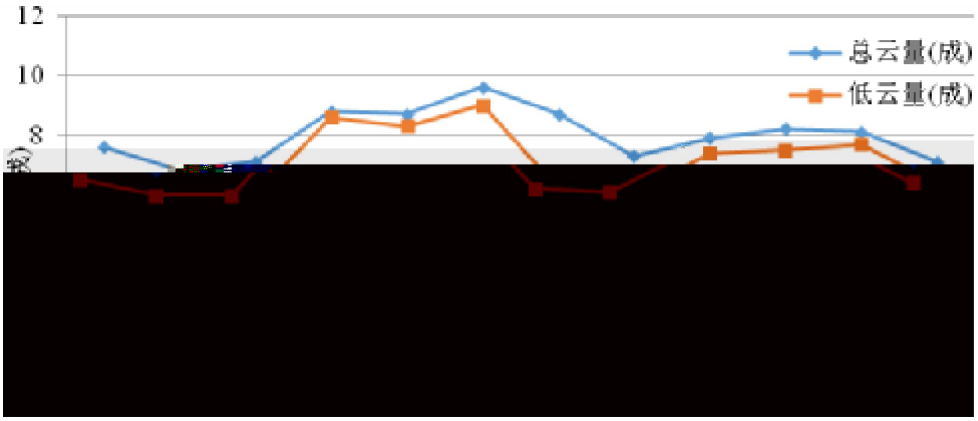
3.3-3



3.4-4

3.4-4

	1	2	3	4	5	6	7	8	9	10	11	12
	7.6	6.8	7.1	8.8	8.7	9.6	8.7	7.3	7.9	8.2	8.1	7.1
	6.5	6	6	8.6	8.3	9	6.2	6.1	7.4	7.5	7.7	6.4



1

2019 6

2019 6 12

GB3095-2012

HJ663-2013 SO_2 NO_2

CO O_3 PM_{10} $PM_{2.5}$ 6

12 GB3095-2012

96.6%

2019 6 96.7% 2.04 SO_2

0.005mg/m^3 NO_2 0.014mg/m^3 PM_{10}

0.026mg/m^3 CO 95 0.05mg/m^3 O_3 90

0.115mg/m^3 $PM_{2.5}$ 0.014mg/m^3

3.4-5

			/ ug/m^3	/ ug/m^3	/%	/%	
	SO_2		150	5	3.33	0	
	NO_2		80	14	17.50	0	
	PM_{10}		150	26	17.33	0	
	$PM_{2.5}$		75	14	18.67	0	
	CO		4000	50	1.25	0	
	O_3		200	115	57.50	0	

3.4-5

GB3095-2012

2

2 سجد ل

TSP

2 10 3.4-6سج 2

	X	Y				/m
G1	106.746426	26.851297				0
G2	106.730483	26.845228	TSP			600

2

3

2019 9

10 2019 9 16 7 TSP 20

45

4

=——×100%

5

14 3.4-7

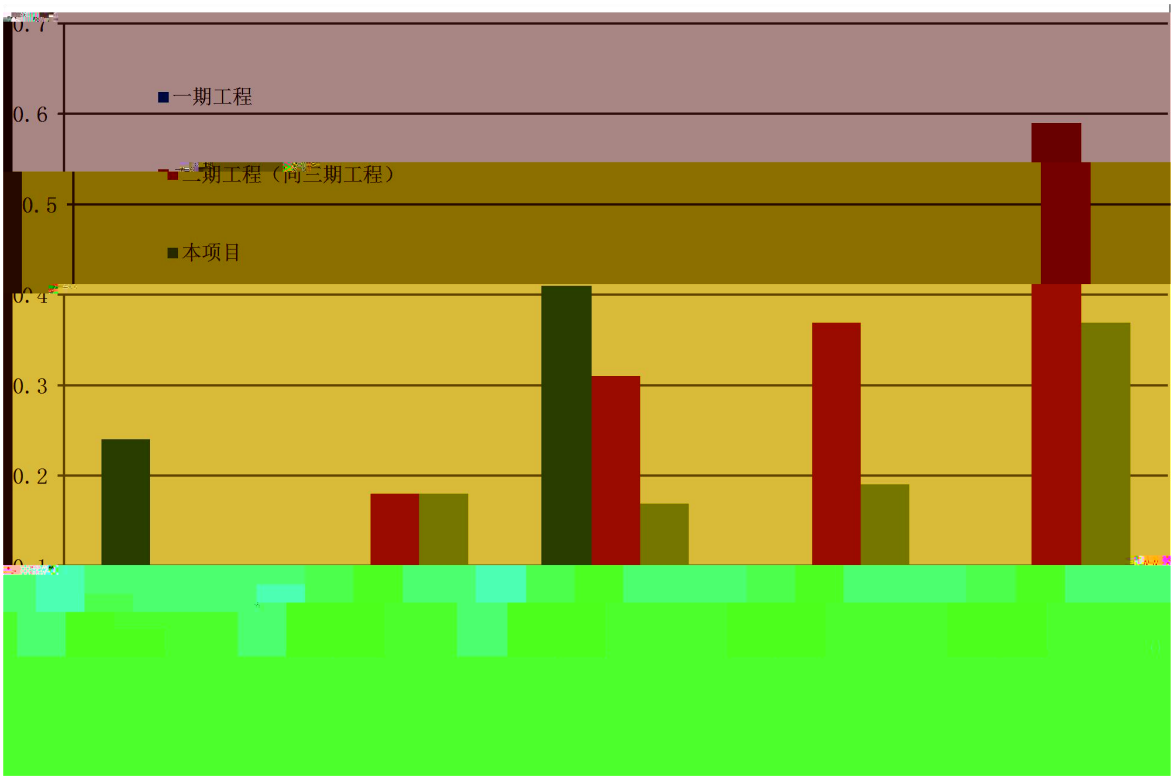
			/	/		
			mg/m^3	mg/m^3	/%	/%
G1			2.0	0.65~0.69	0.35	0
	T/S6P	£	0. 9			

G1		G6 G6
G2		G2 G6

G1 G2 3.4-9

3.4-1~3.4-2

			G6	G2	G6	G2	G1	G2
1	SO_2		0.11	0.24	0.02	0.07	0.03	0.03
2	NO_2		0.07	0.08	0.18	0.18	0.18	0.18
3	PM_{10}		0.22	0.41	0.60	0.31	0.17	0.17
4	$PM_{2.5}$		/	/	0.61	0.37	0.19	0.19
5		1	/	/	0.5.3			



3.4-9 3.4-1~3.4-2

GB3095-2012

1

GB3096-2008 2

2

200m

70 20 30

2019

2019 4 30 5 1 13:54~16:33 22:09~00

51 1m 4

10

3.5-1

N1		Leq	1.0m	
N2		Leq	1.0m	
N3		Leq	1.0m	
N4		Leq	1.0m	

1

GB3096-2008 2 60dB

50dB

2

3.5-2

Leq dB

N1	55.4	2	/
	44.5		
N2	53.8	2	
	45.3		
N3	54.3	2	
	42.6		
N4	55.4	2	

4 30 5 1

13 54~16 33

22 09~00 51

3.5-3

N1		
N2		
N1		N1
N2		N1
N3		N1
N4		/
N5		N1
N1		N1 N1
N2		N1 N2
N3		N1 N3
N4		N1 N4
N5		N1 N5
N1		N1 N3 N3
N2		N1 N2 N2
N3		N1 N1 N1
N4		N1 N5 N4

2

2004

ž998

ŋ

1km

3.7-1 3.7-2

	/	/	/	/
			/	/
	/	/	/	/

	/				
			pH SS COD NH_3-N		

1

3.7-3

/ 2019.09.10

106 ° 44 ′ 25 ″ 26 ° 51 ′ 06 ″

ɹ e

38%

pH 8.26

cmol/kg 14.8

ꝑ

T1		0-0.2m	1
T2		0-0.2m	2 2mi d

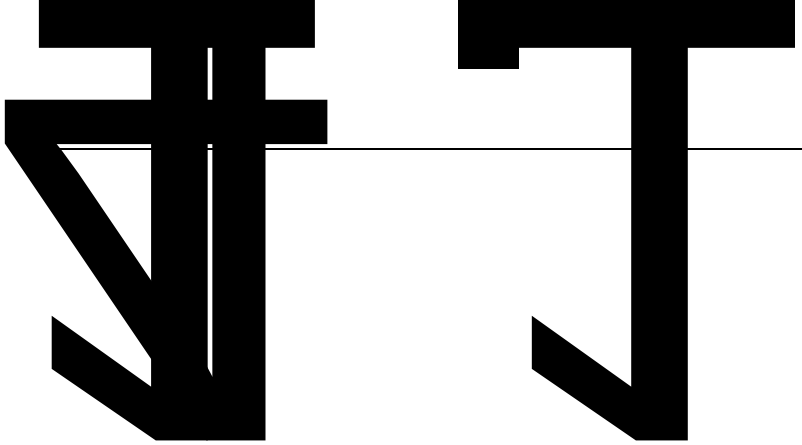
mg/kg		$S_{i,j}$		$S_{i,j}$		GB 36600-2018	GB 36600-2018
pH	8.26	--	--	--	--	---	---
	0.180	0.0028		0.0010		65	172
	0.133	0.0035		0.0016		38	

mg/kg						GB 36600-2018	GB 36600-2018
		$S_{i,j}$		$S_{i,j}$			
pH	7.74	--	--	--	--	---	---
	0.090	0.0014		0.00052		65	172
	0.167	0.0044		0.0020		38	82
	12.0	0.20		0.086		60	140
	36.7	0.0020		0.00102		18000	36000
	40.5	0.051		0.016		800	2500
	116	/	/	/	/	900	2000
	37.3	0.041		0.019		/	/
	<0.5	-		-		5.7	78
	<1.3	-		-		2.8	36
	<1.1	-		-		0.9	10
	<1	-		-		37	120
1,1-	<1.2	-		-		9	100
1,2-	<1.3	-		-		5	21
1,1-	<1	-		-		66	200
-1,2-	<1.3	-		-		596	2000
-1,2-	<1.4	-		-		54	163
	<1.5	-		-		616	2000
1,2-	<1.1	-		-		5	47
1,1,1,2-	<1.2	-		-		10	100
1,1,2,2-	<1.2	-		-		6.8	50
	<1.4	-		-		53	183
1,1,1-	<1.3	-		-		840	840
1,1,2-	<1.2	-		-		2.8	15
	<1.2	-		-		2.8	20
1,2,3-	<1.2	-		-		0.5	5
	<1	-		-		0.43	4.3
	<1.9	-		-		4	40
	<1.2	-		-		270	1000
1,2-	<1.5	-		-		560	560
1,4-	<1.5	-		-		20	200
	<1.2	-		-		28	280
	<1.1	-		-		1290	1290

	<1.3	-		-		1200	1200
+	<1.2	-		-		570	570
	<1.2	-		-		640	640
	<0.09	-		-		76	760
	<0.1	-		-		260	663
2-	<0.06	-		-		2256	4500
[a]	<0.1	-		-		15	151
[a]	<0.1	-		-		1.5	15
[b]	<0.1	-		-		15	151
[k]	<0.1	-		-		151	1500
	<0.1	-		-		1293	12900
[a, h]	<0.1	-		-		1.5	15
[1,2,3-cd]	<0.1	-		-		15	151
	<0.09	-		-		70	700
“ < ” μg/kg							

3.7-5~ 3.7-7 T1 T2 T3

GB36600-2018



0.8 m^3/d

BOD_5 COD SS NH_3-N

GB27632-2011 2

GB/T19923-2005

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4.2-1

	L/s · km^2	L/s	m^3/d	
	>6	>10	>600	
	3~6	5~10	300~600	
	<3	<5	<300	
	>3	>5	>300	
	1~3	1~5	100~300	
	<1	<1	<100	

1

Q_4

0~10m

2

E

1:20

0.1~0.5L/s 0.1~1L/s.km^2

3

$_1$q $_2$g $_{2\text{-}3}$ls

- P_2q-m T_1y^2 T_1m

T_2s



2g 2-3ls

5~10L/s

5~7L/s.km^2



00m

F2

-3

100m

T_1y^1 T_1y^2

T_1y^1 100~200m^3/d 10m

F3

F3 100m^3/d

35m

1235.2mm 1503.4mm

4~9 79.5% 10~3 20.5%

6~9

S011 S012 S013 S015

S011 E 106 ° 45'39.34" N 26 ° 52'31.16" 0.93L/s “ ”

S012 E 106 ° 44 ′ 52 ″ N 26 ° 52 ′ 16 ″ 1.10L/s “ ”

S013 E 106 ° 46 ′ 23 ″ N 26 ° 52 ′ 59 ″ 374.50L/s “ ”

S015 E 106 ° 45 ′ 13 ″ N 26 ° 52 ′ 34 ″ 3.33L/s “ ”

1 $_{2\text{-}3}$ls $_{2\text{-}3}$ls 30.00~50.00m n × 10^{-4}~ n × 10^{-3}cm/s F2 “ ” 566.04m/d

2 $_{2\text{-}3}$ls T_1m T_1y^2 F2 F3

3 13

k n × 10^{-4}~ n × 10^{-3} cm/s -1 “ ” -2 k n × 10^{-4}~n × 10^{-3}cm/s -1 n × 10^{-3}cm/s -2 k n × 10^{-5}~ n × 10^{-4}cm/s -1 n × 10^{-4}~ n × 10^{-3}cm/s -2

1

30m~50m

2

100m

1

2400m^3/d

2400m^3/d

4800m^3/d

2

100m

1

3.5mg/m^3

4 5 /

70%

GB16297-1996 2 TSP ≤ 1.0mg/m^3

2

NO_2 CO HC

50m 1 0.2mg/m^3

0.13mg/m^3 0.13mg/m^3 0.062mg/m^3

GB3095-2012 2018

3

1

36.44kg/a 7.81kg/a

5.61kg/a 30.83kg/a 7.81kg/a 1.20kg/a

6.61kg/a 839.6 m^3/a

4.34mg/m^3 0.93mg/m^3

GB27632-2011 5 10mg/m^3

GB 37822-2019

GB14554-93 3.0mg/m^3

A

HJ2.2-2018 A

AERSCREEN

B

AERSCREEN

4.3-1~4.3-2

3

D/m

D/m				
	mg/m^3	%	mg/m^3	%
10	×		5.79×10^{-4}	1.45
25	1.77×10^{-4}	0.44	7.75×10^{-4}	1.94
26	/	/	×	
50	1.06×10^{-4}	0.27	5.93×10^{-4}	1.48
75	6.91×10^{-5}	0.17	3.88×10^{-4}	0.97
100	4.91×10^{-5}	0.12	2.74×10^{-4}	0.68
125	3.71×10^{-5}	0.09	2.06×10^{-4}	0.52
150	2.94×10^{-5}	0.07	1.63×10^{-4}	0.41
175	2.40×10^{-5}	0.06	1.33×10^{-4}	0.33
200	2.02×10^{-5}	0.05	1.11×10^{-4}	0.28
300	1.17×10^{-5}	0.03	6.45×10^{-5}	0.14
400	7.95×10^{-6}	0.02	4.38×10^{-5}	0.09
500	7.32×10^{-6}	0.02	3.24×10^{-5}	0.09
600	4.58×10^{-6}	0.01	2.53×10^{-5}	0.06
700	3.72×10^{-6}	0.01	/	/
800	3.10×10^{-6}	0.01	/	/
900	2.64×10^{-6}	0.01	/	/
1000	2.29×10^{-6}	0.01	/	/

10m 1%

26m 1%

GB14554-93 3.0mg

2 +

2

GB14554-93 3.0mg/m^3

A

HJ2.2-2018 A

AERSCREEN

B

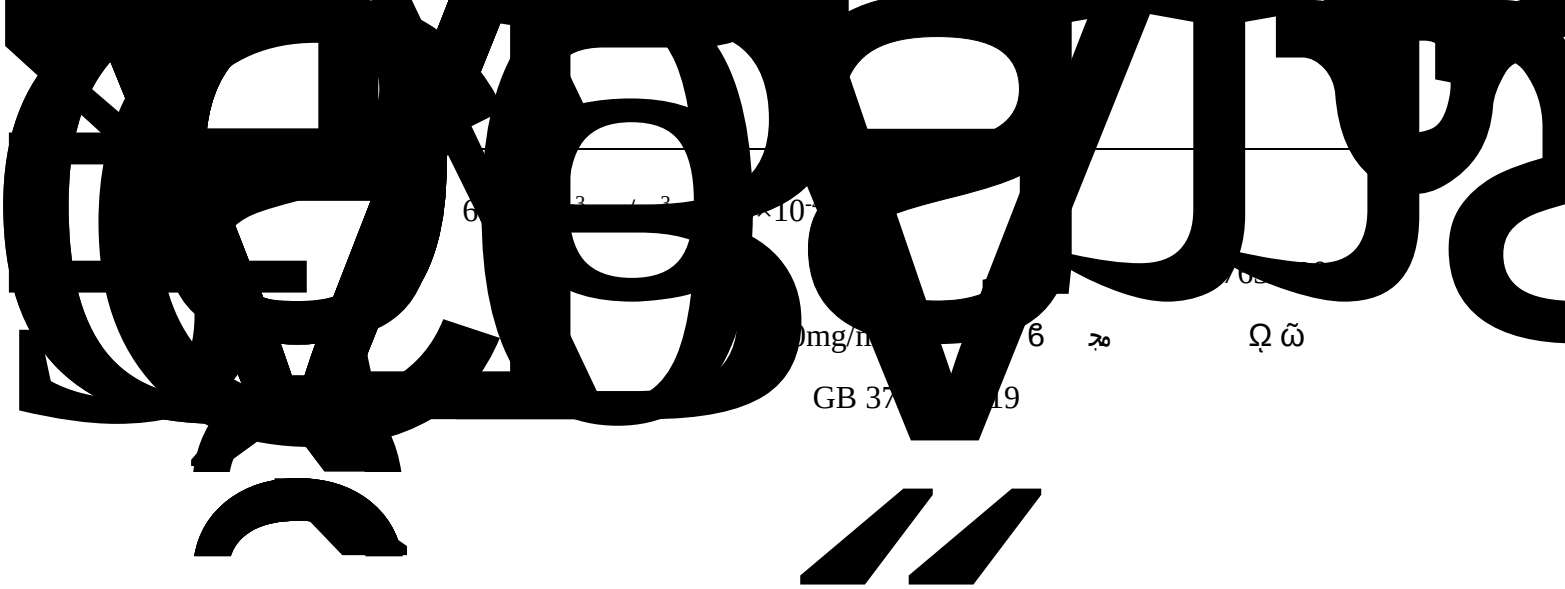
AERSCREEN

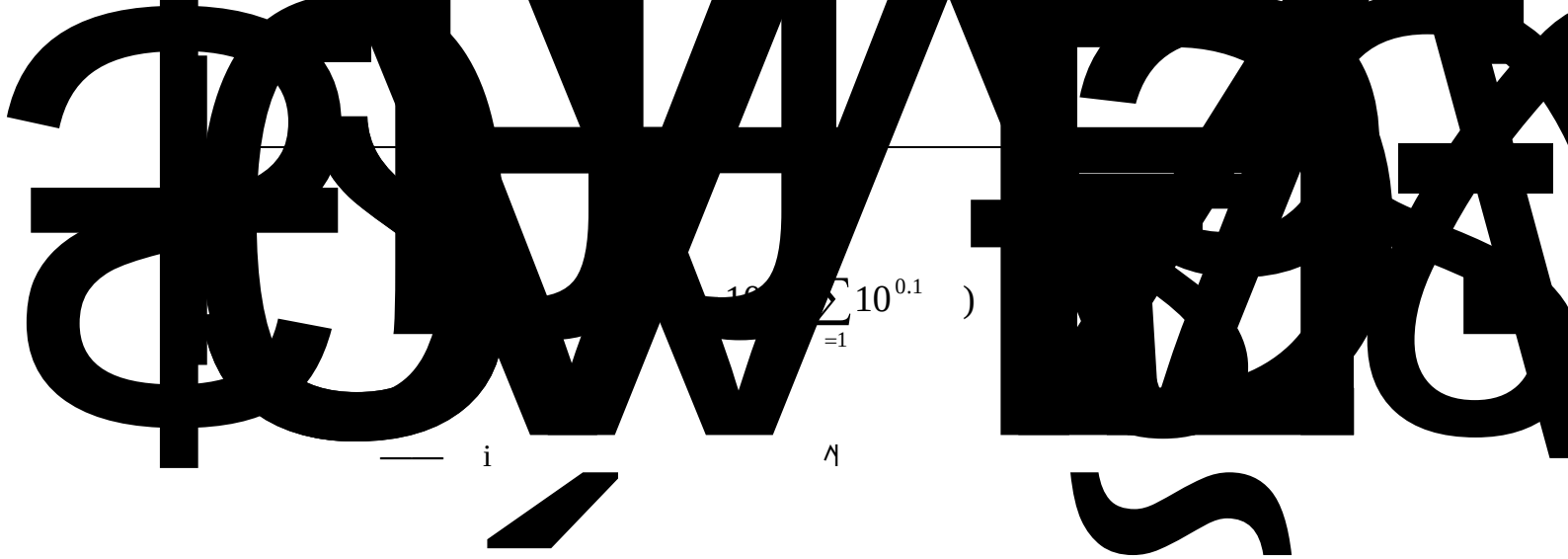
4.3-3~4.3-4

D/m mg/m^3 mg/m^3

+

D/m		mg/m^3		mg/m^3
		+		+
10	×	3.30×10^{-3}	5.79×10^{-4}	2.92×10^{-3}
25	$1.77 \times$			





$$L_1 = L_w + 10lg\left(\frac{Q}{4\pi r_1^2} + \frac{4}{R}\right)$$

L_1— r

L_w—

r—

Q— Q=1

Q=2 Q=8

R— R=S

$$L_w = L_n - (TL + 6) + 10lgS$$

Ln—

Lw—

TL—

r—

S— m^2

$$L_{eq} = 10lg\sum 10^{0.1}$$

Leq— dB A

Li— i dB A

2

	1m dB A		m			
7 88	80	2	1111	424	101	744
1 88	80	4	865	387	318	893
2 88	80	7	938	419	267	873

3

1

89.7t/a

100m^2

2

2016 “ HW08 ” 0.24t/a

200m

Pi 1.97%

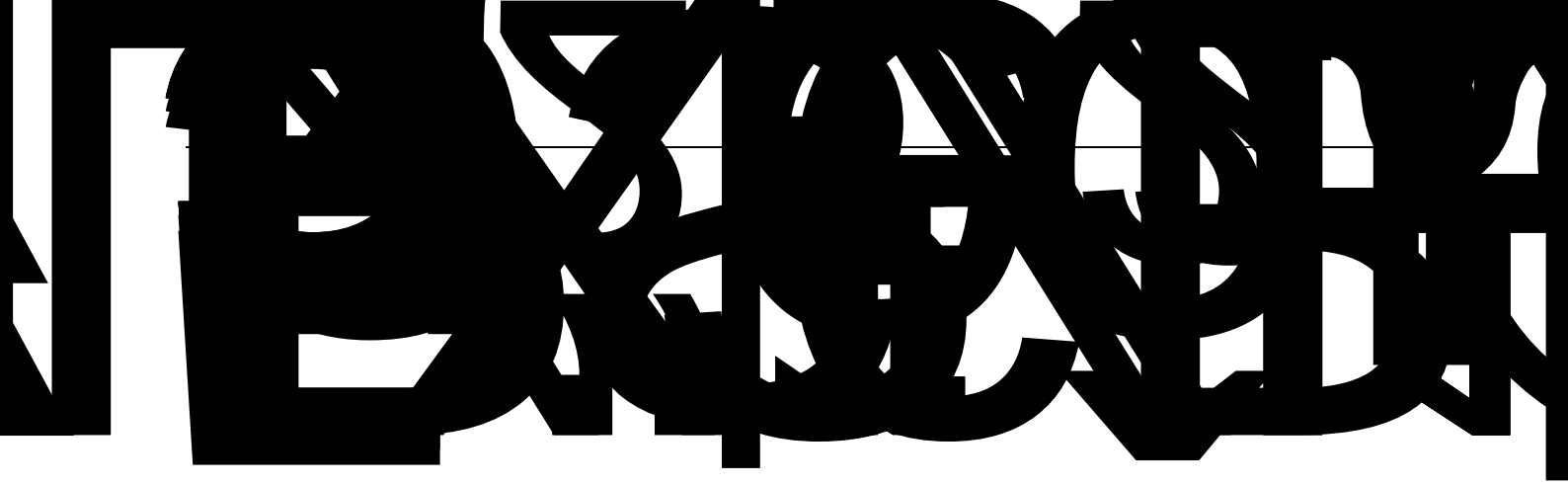
GB18218-2018 HJ 169-2018 C

2015 4

2017 6

2017 7 25

520123-2017-041-L 15



GB27632-2011 2

GB/T19923-2005

2400m³/d

16

1

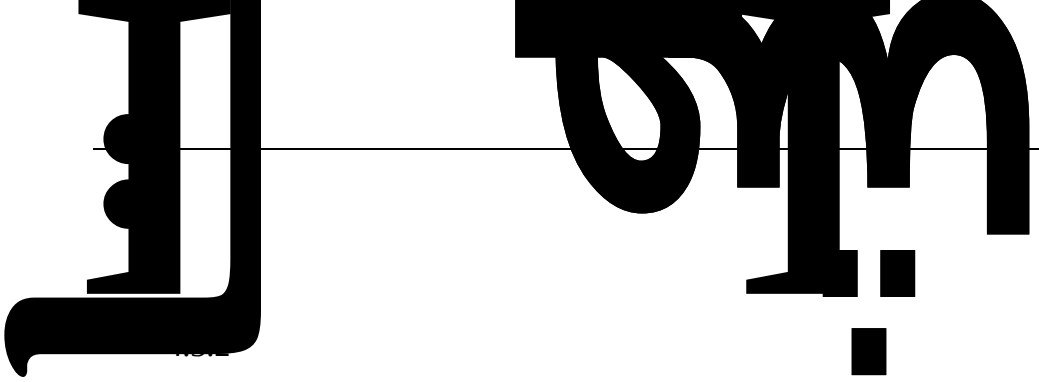
GB16297-1996 2

TSP ≤ 1.0mg/m^3

2

NO_2 CO HC

3



GB27632-2011 5 10mg/m^3

GB 37822-2019

GB 27632-2011

≤ 4.0mg/m^3

GB14554-93 3.0mg/m^3

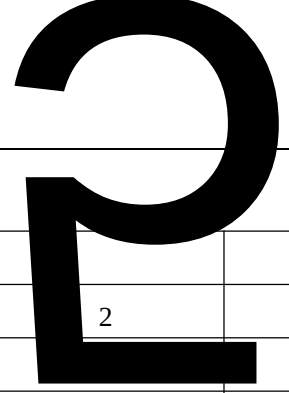
39.82m

70dB 223m 50dB

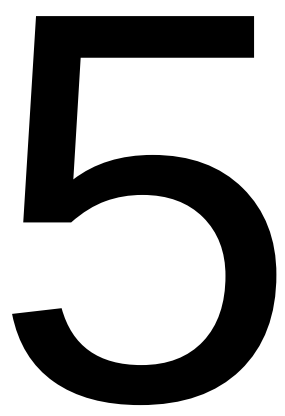
GB12523-2011

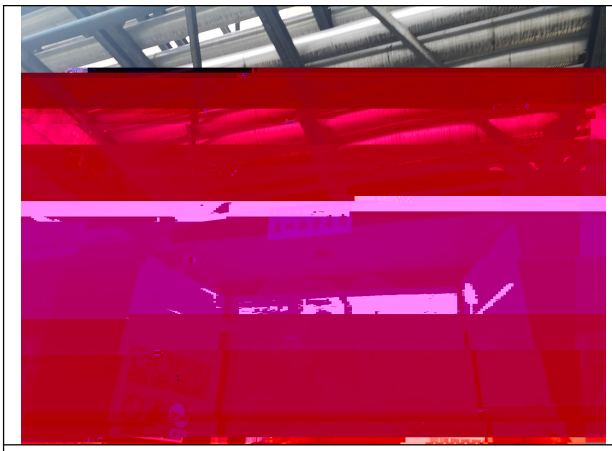
39.82m

9:00 11:30 14:30 17:30

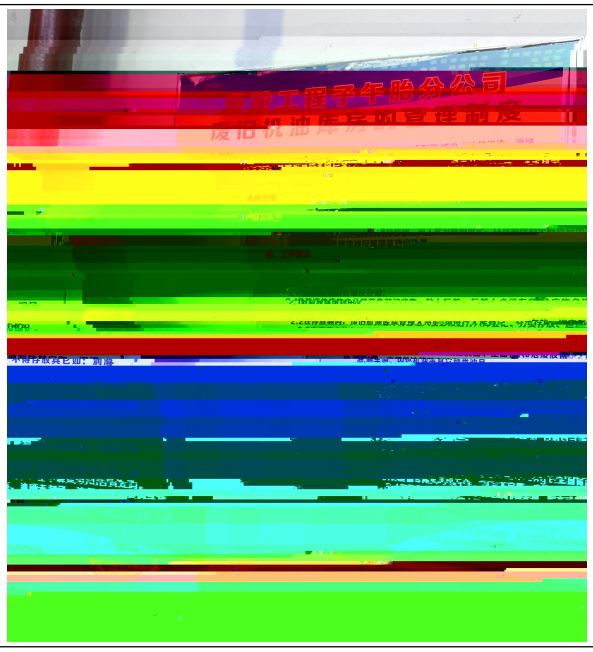


7	88	2	
1	88		
2	88	7	





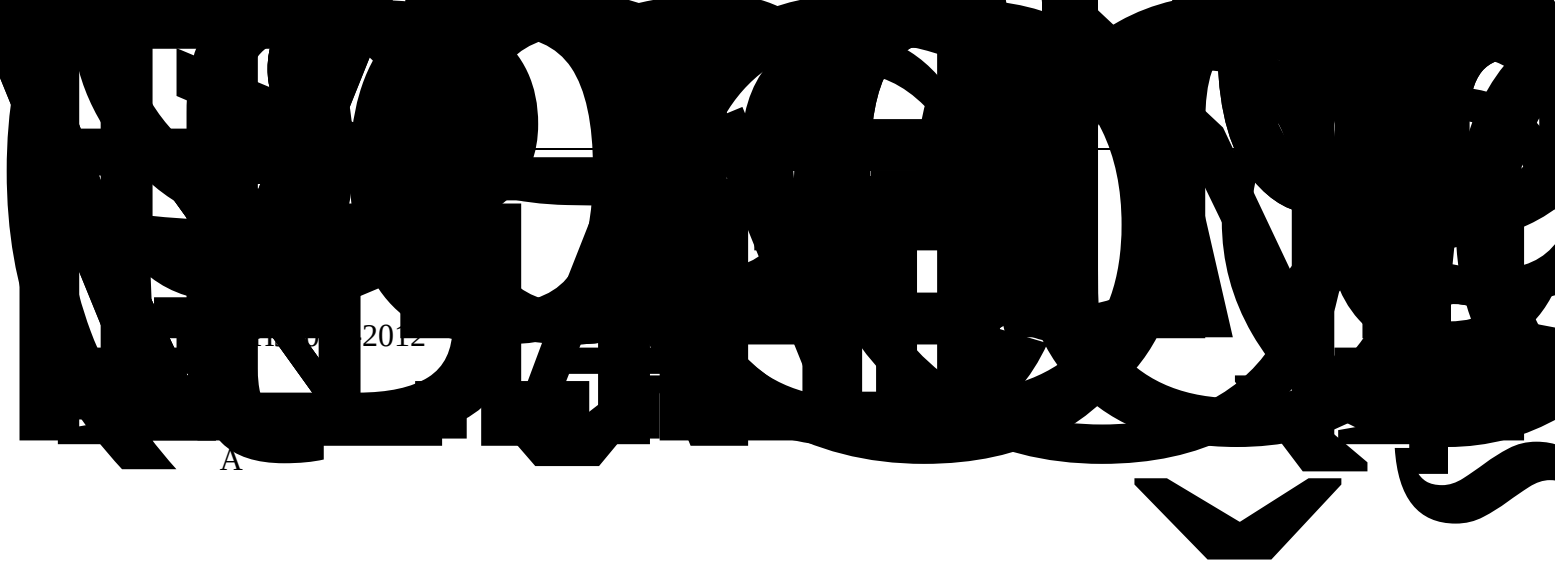





TOXIC


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废油



2012

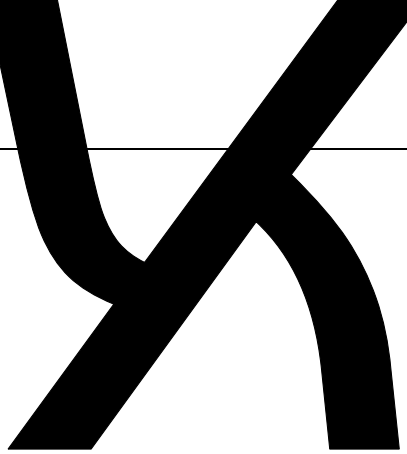
A

B

ÍÄ¦Ñ‡R (@Bq •

Â > ¹

غي d



a

b

c

1

2

3

4



1

2

3

HJ 964-2018

b

c

d

e

B

31

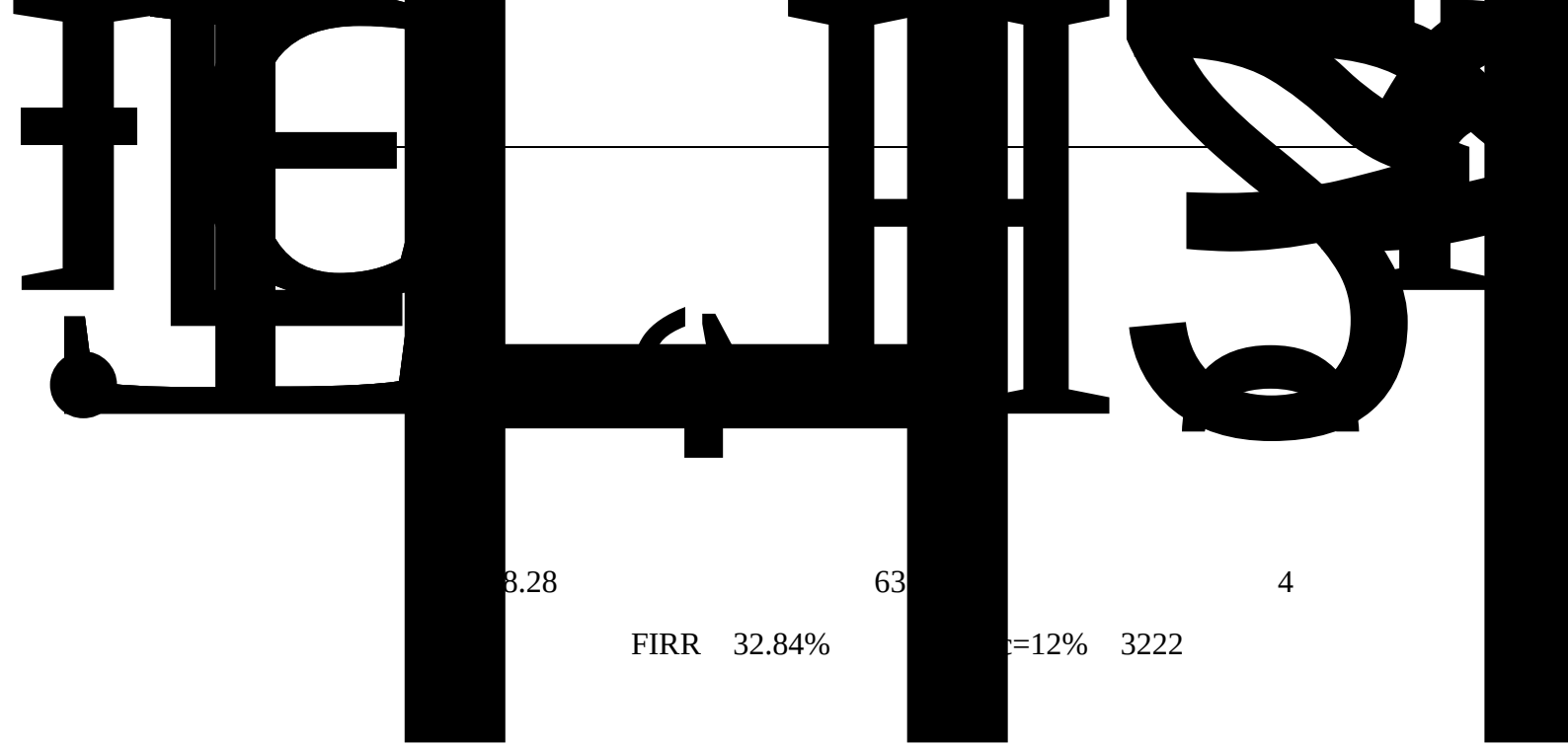
1

2

3

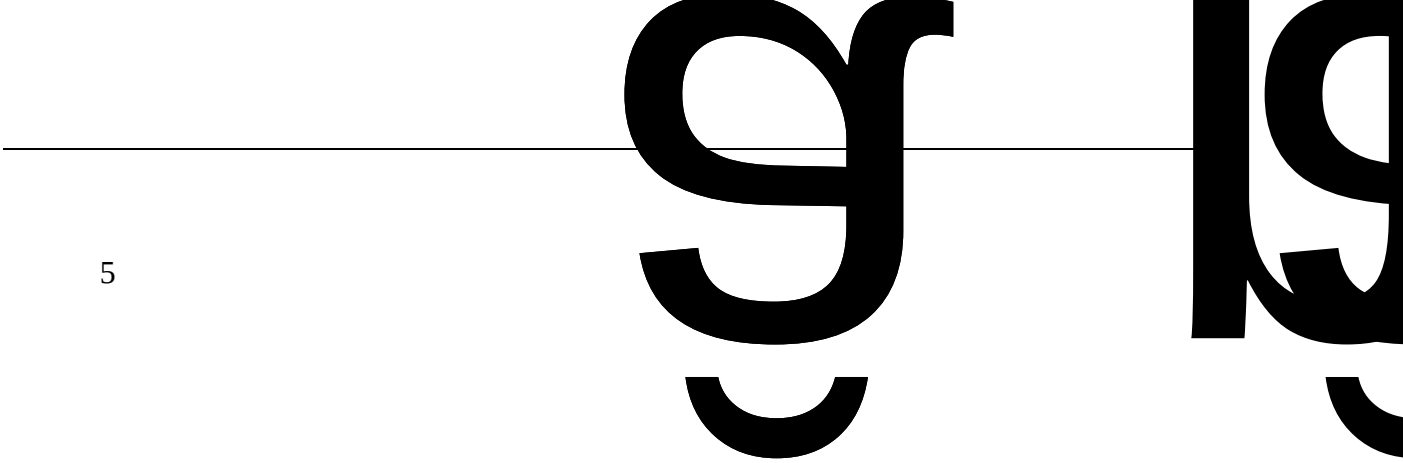
SO_2 NOx

SO_2 NOx



8.28 63 4

FIRR 32.84% =12% 3222



5

			---	---	---	---

			4		20.0	---
		*10%	1		5.8	---
		---	---	---	63.8	---

6.3-2

		/
		10.0
		5.0
		20.0
		5.8
		40.8

2

3458.28

63.8 1.84%

3

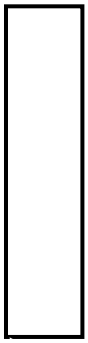
63.8 40.8

“ ”

“ ”

“ ”

7.1-1



7.1-1

1

2

3

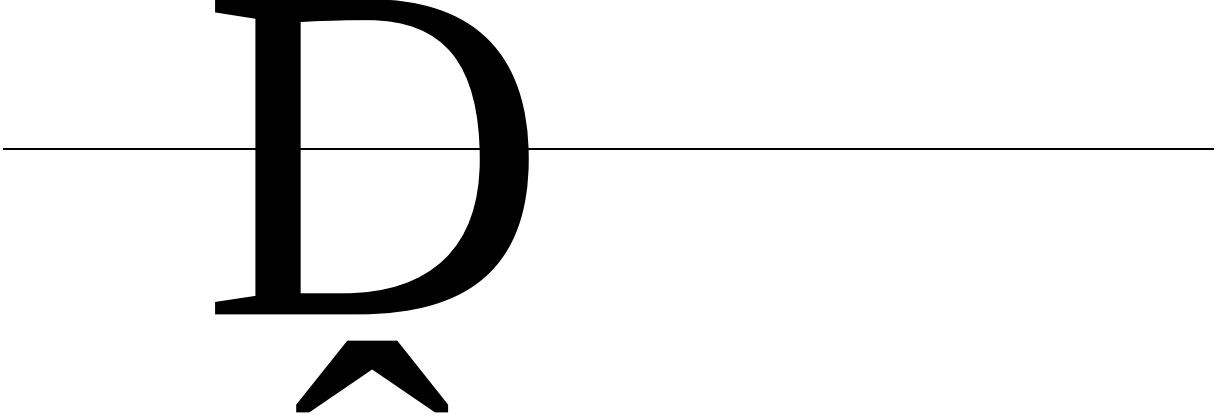
7.1-3

1			TSP
			CO NO_X H_xC
			TSP
2			COD BOD_5 SS NH_3-N
3			
4			

4

7.1-4

1			NMHC
2			/
3			
4			



4

1

1

2

3

4

5

6

1

87 002

“

” “ ”

2

200m

200m

7.3-1



“

” 13 88 ″

2

1# 4 2# 7 3#

6 7 2.6

0.4 2.2

25.4 324.2

2019

7 23 2019-520123-29-03-204676

3458.28

1́ Ṙ† Ѫ ¾ } ∫ "

3 1

GB3838-2002 III Ď

2019 6

GB3095-2012

TSP

GB3095-2012

4

GB3096-2008 2

3

GB36600-2018

1

$0.8m^3/d$

2

1

2

1

2

75~80dB A

1

2

1

GB27632-2011 2

GB/T19923-2005

2

3

8.4-1

1		COD BOD_5 SS NH_3-N TP TN	→ → WS1# → WS-001 → →

J 11 11

		PH		
		A B		
		40% 40%		
		pH COD BOD_5 SS NH_3-N LAS		3

21 km km^2

pH COD BOD_5 SS NH_3-N LAS

I II III

	/ t/a	/ mg/L
COD	25.75	60
BOD_5	4.29	10
SS	4.29	10
NH_3-N	2.15	5

			200m 500m 1500m	
			pH COD BOD_5 SS NH_3-N L_{AS}	
“ ” “ ” “ ”				

1

30m~50m

2

1

3.5mg/m^3

2

75m 75m

3.23×10^{-4}mg/m^3 6.91 × 10^{-5}mg/m^3

300m 300m 3.01×10^{-4}mg/m^3

6.45 × 10^{-5}mg/m^3

GB 27632-2011

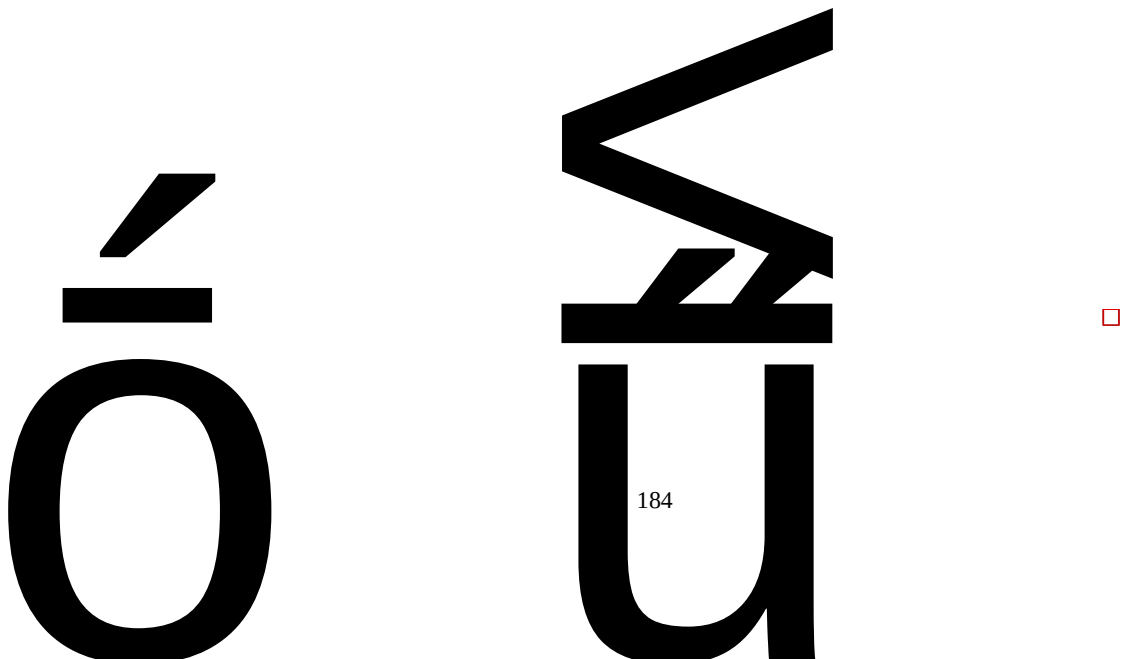
≤ 4.0mg/m^3 GB14554-93

3.0mg/m^3

3

C □ C Ģ

k ≤ -20% □



□

1

2

200m

1

2

Pi 1.97%

8.4-3

		153 hm^2	
		NE SW 1m	
		pH 1,1- 1,2- 1,1- -1,2- -1,2- 1,2- 1,1,1,2- 1,1,2,2- 1,1,1- 1,1,2- 1,2,3- 1,2- 1,4- + 2- [a] [a] [b] [k] [a,h] [1,2,3-cd]	
		-	
		a b c d	
			C
		pH 1,1- 1,2- 1,1- -1,2- -1,2- 1,2- 1,1,1,2- 1,1,2,2- 1,1,1- 1,1,2- 1,2,3- 1,2- 1,4- + 2- [a] [a]	

	3	0	0~0.2m
	0	0	/

[b] [k] [a,h] [1,2,3-cd]

pH

1,1- 1,2- 1,1-

-1,2- -1,2- 1,2- 1,1,1,2-

1,1,2,2- 1,1,1- 1,1,2-

1,2,3- 1,2-

1,4- +

2- [a] [a]

[b] [k] [a,h] [1,2,3-cd]

GB15618 GB36600 D.1 D.2

T1 T2 T3

GB36600-2018

-

E F

50m

a b c

a b

pH

1,1- 1,2- 1,1-

-1,2- -1,2-

1,2-

1,1,1,2- 1,1,2,2-

1,1,1- 1,1,2-

3

1,2,3-

'1p2- ¸B y íÒ%Bb4y

ž 1

	□	
1 “ □ ” √ “ ” “ ” 2		

2019 8

28 7

2019 10 8

3

10

1

GB27632-2011 2

GB/T19923-2005

2

190

1

2

1

2

1

39.82 m

2

7 2 88

1 4 88 2 7 88

13 88

1

2

1