

2

2020 1

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30

70

10

1 2019 12 18

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6

3

1

2015 33

2015 23

2019

2

4

2019

2019-410822-35-03-067008

3

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3

4

a.

1#

2#

1#

“

”

“

[2019]76

GB16297-1996 2

[2017]162 1

GB14554-93 2

100m

b.

COD SS NH₃-N

c.

150m²

50m²

d.

GB12348-2008 3

5

a.

HJ2.2-2018

b.

HJ/T2.3-93

B

c.

HJ610-2016

d.

HJ2.4-2009

e.

HJ169-2018

6

7

8

1.1

1.1.1

1	2015	1	1	
2	2016	9	1	
3	2018	10	26	
4	2018	1	1	
5		2016	11	7
6		2018	12	29
7	2018	12	29	
8	2011	3	1	
9	2004	8	28	
10			682	
11	2016	3	29	
12	1999	10	1	
13				2005
39				
14			1996	31
15			44	
16				1
17	2011		2013	
18				

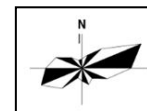
	2012	77		
	19			
	2012	98		
	20		2007	5 1
	21			4
	22			2016
	23		1999	10 1
	24			
	2015	33		
	25			
		2015	23	
	26			2019
			[2019]	76
	27			
	28		2018	2020
	29	2019		
	30			
	2019	3		
1.1.2				
	1		HJ2.1-	2016
	2		HJ2.2-	2018
	3		HJ2.3-	2018
	4		HJ2.4-	2009
	5		HJ610-	2016

6		HJ 169-2018
7		HJ2042-2014
8		
GB36600-2018		
9		(GB 34330 2017)
10	-	GB5058.7-2007
11		GB15603-1995
12	2016 8 1	
13		GB/T13201-91
14		GB3839-83
15		GB18598-2001
16		GB18597-2001
1.1.3		
1		2
2		2
3		2
	。	
4		2
1.2		
		2
1.3		
1.3.1		

1.4

200m

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	-1SP	-1SP	-1LP	-1LP	-1SP
	-1SP		-1LP		-1SP
			-1LP	-1LP	-1SP
	-1SP	-1SP		-1LP	-1LP
	-1SP		-1LP		-1SP
	-1SP	-1LP	-1LP		-1SP
	-1SP				

	A	A	/
	/		/

1.6 ð ñ

1.6.1 ò

HJ2.2-2018

5km

1.6.2 ó î ú

HJ2.3-2018

B

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		Q/ m³/d W/
		Q 2000 W 600000

A	Q<200	W<6000
B	-	

HJ169-2018

II

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1.7.1 þ

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	113.085056	35.193814		SW	2000		
	113.137606	35.193921		SE	2200		
	113.136082	35.206023		NE	2300		
	113.085614	35.184437		SW	2400		
				SW	5470		GB/T14848-2017
				SW	5440		
				SE	5300		GB3838-2002

GB3838-2002	pH	/		6-9
	COD	≤	mg/L	30
	NH ₃ -N	≤	mg/L	1.5
	pH	/		6.5-8.5
	COD _{Mn}	≤	mg/L	3.0
	N	≤	mg/L	0.5

GB/T14848-2017

1-10 ô õ é Ê ê Ć Ā ā î

	(GB16297-1996) 2		20m	kg/h	5.9	
				mg/m³	1.0	
			20m	kg/h	5.2	
			20m	kg/h	1.7	
			20m	kg/h	17	
	2019 [2019]76			mg/m³	10	
	[2017]162			mg/m³	60	
				%	70	
				mg/m³	2.0	
				mg/m³	20	
				mg/m³	0.6	
				mg/m³	0.2	
	GB14554-93 2 1		20m	kg/h	12	
				mg/m³	5.0	
			COD		≤390mg/L	
			SS		≤200mg/L	
			NH ₃ -N		≤35mg/L	
	GB18599-2001 2013					
	GB18597-2001 2013					
	(GB12348-2008)3	Leq			65dB(A)	

1.8.3 Ā ā

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GB/T13201-91

5

GB/T3839-83

1.9 Č ě Ď

1.9.1 Č ě ¶

1.9.1.1 Č ě

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11

12

1.9.1.2 ¶

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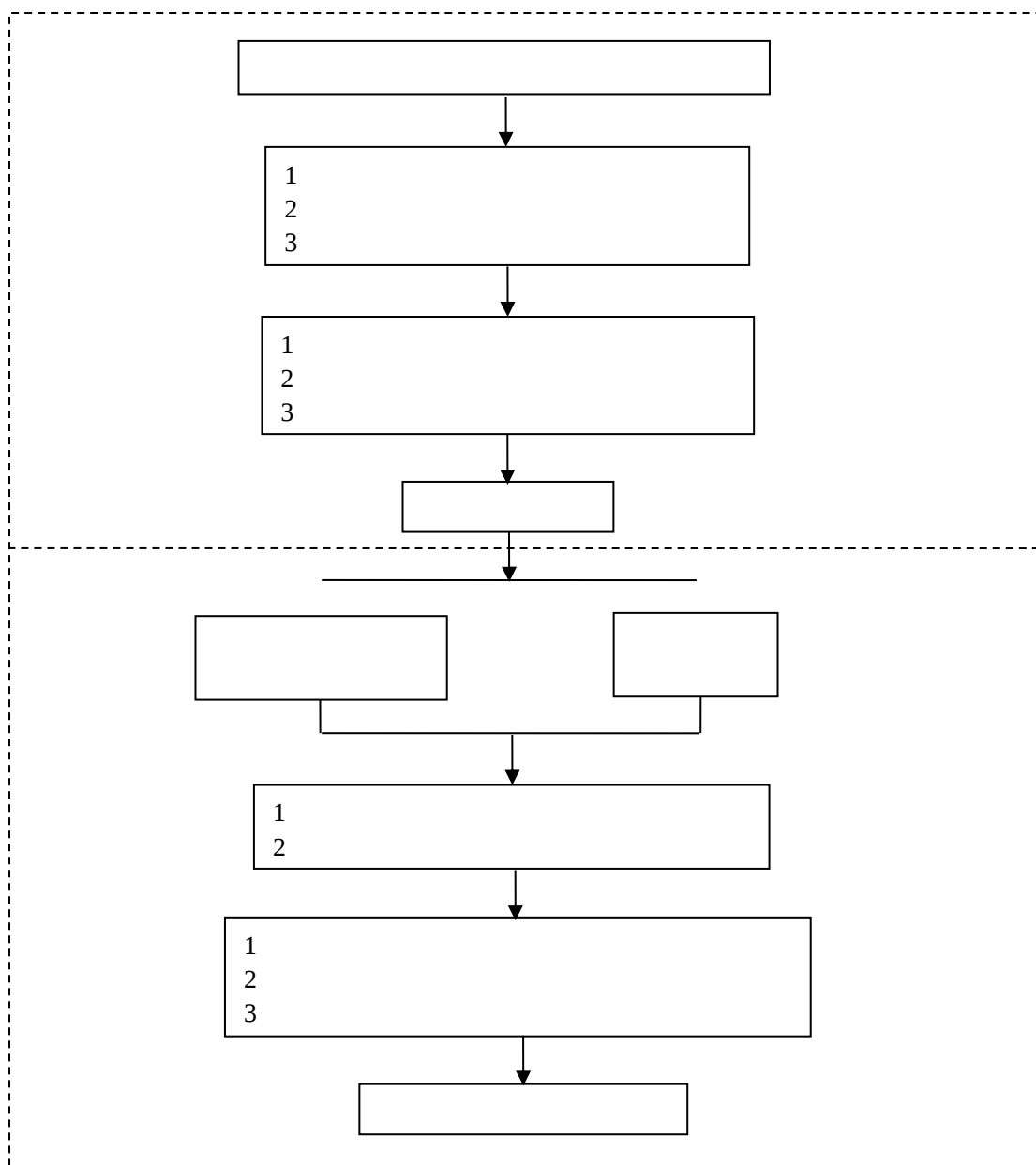
2

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4

1.9.2 Ď

1-1



Ý 1-1

Đ Ý

2.1 đ Đ đ Ě

2.1.1 ó ě č

35°02'~ 35°21'

112°57'~113°12'

435km²

169.5km²

39%

265.5km²

61%

113.109961

35.198706

2.1.2 ó Ě ó ě

152

7

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800-1000m

7

2.1.4 È è

3

6

19

44

5m

2.1.5 È

1.9m/s

ENE

2-1

↑ 2-1 Ε ā Ā ↑

	2432.6h		30m/s
	14.1		597.1mm
	-17.8		1850.5mm
	43.3		216d
	1.9m/s		ENE

2.1.5 Ú ę Ě

1

20

92

18.84%

8

385.70

79%

20.93

1500 2000

200

20

100

800 1000

4000

11.28

2000 7

639m3/s

162

405m ³ /s	1998	5	31		642m ³ /s	
			115.5		30	100 500
						400
800						
0.3 0.5						11
			27		25	7
18		15 55				
	40					
				22		
		7	30			
						16.6
5 15			0.5 1.5 /		0.3 0.8	
		10 15				
14.9		10		3		
		11				
				11		2.6
		3		70		

4

5

“ ”

2008~2020

2.2.3

66.81

38.35%

5.67

3.26%

28.60

16.24%

2.03

1.17%

7.87

4.52%

52.96

30.40%

70

[2015]33

6

4

1

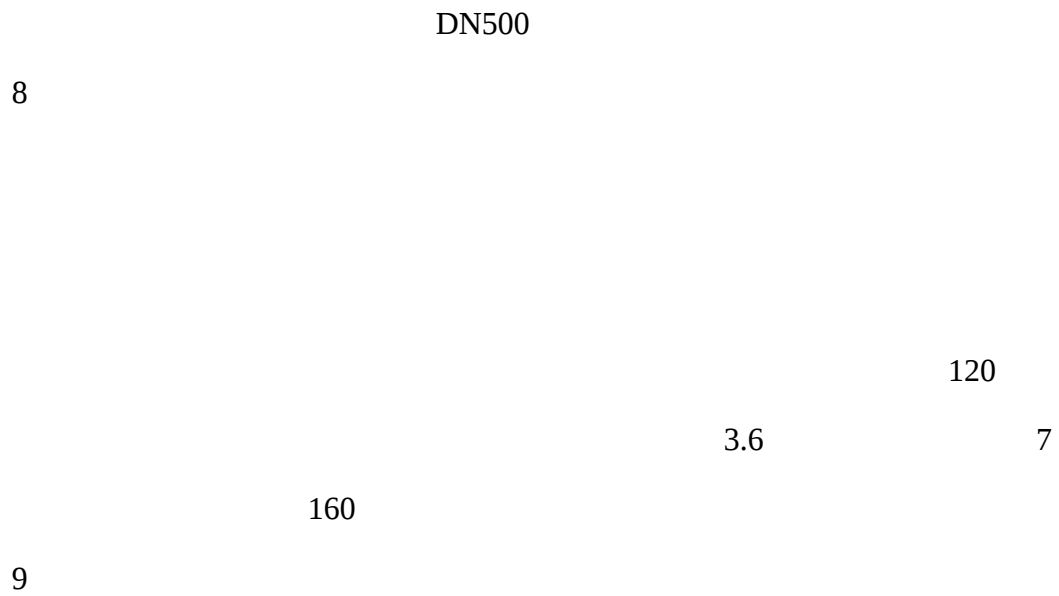
0.6 1.2 1.0 1.0

60% 40%

3

2

4988 /



2.2.2 ¼ ® ě ĩ ĭ Ğ ğ Ó Ô 2015-2020

2017

2015-2020 2017 6 27

[2017]18

19.7km²

-

1

2015-2020

2015-2017

2018-2020

2

		-	-	-
				7.07
			600	
	18.35			
3				

↑ 2-3

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↑ ↓

↓ ↑

↑ ↓

[2015]33 6

2.3 ŷ ã Ä IJ ij

2.3.1 ¬ ® ě Ĵ ĵ Ú Ú Ě ó

1

3

8

3152km² 3.09 m³
5 m³/d

0.7 /

2

2014 1

25.545km									
40									
260~265m³/s				310~320m³/s			260m³/s		
310m³/s				4293.83			m³		3950.28
m³	255.79			m³	47.76		m³		2.47
40.01				m³		350169.39			
243402.25					48		2008		12 26
					2018		56		
HZ019+447.4~HZ028+486.1					9038.7m				
100m				1000m					
5300m									

2.4 ô õ Ě IJ ij

1 2-4

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t/a

COD

NH

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3.1.1 | ½ ı Ě

213344 320

3-2

3-3

1 3-2

2 3 1

2 3 1

		/	t/a	/a
		PE600×900-PE1500×1800	0.3	220
		φ3.0m -φ6.0m	0.6	50
		φ3.6m -φ5.5m	0.5	20
		φ1.0m -φ3.6m	0.2	60
		φ1.0m -φ3.6m	0.3	80
		φ1.0m -φ3.6m	0.1	10
		-	2	440

1 3-3

2 3 1

	/		-
			-
		-	
			-
			-
		-	
		-	

3.1.3 2 3 1

3.1.3.1 2 3 1

1#

1# 2#

2#

3#

3-4

1 3-4

1 1 3 4 5 6 7 8 9 10

m²

1#	1	1	38840	
2#	1	1	26450	
1#	1	1	104	1#
2#	1	1	104	1#
3#	1	1	104	2#
	1	1	163	2#
-	2	-	5750	1# 2#
	1	5	6829	
	1			

3.1.4 ę Ę

3-5

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/

1#		
1	X52K	3
2	X53K	1
3	-	1
4	CNC1B	1
5	TK6922A	1

18		B5032K	1
19		B5050K	1
20		DVT630x35/63	1
21		C1550	1
22		CQ5250A	1
23		C5235	1
24		DVT350x25/32	1
25	50		

46		Y3180H	1	
47		YN31125	1	
48		Y31800C	1	
49		Y31500A	1	
50		Y31315	1	
51		MYQ31315A	1	
52		CT3X15	1	
53		Z3080	6	
54		Z3050	4	
55		Z3040	1	
56		Z310	1	
57		Z3540	1	
58		-	10	
59		-	2	
60		100t	2	
61		75t	2	
62		50t	2	
63		32t	2	
64		20t	1	
65		10t	1	
66		-	2	
2#				
67		XB-12000	1	
68		6.3X2000	1	
69		-	4	
70		KDW11-30x2500	1	
71		WLL-50X3000	1	
72		G4240	2	

73		QC112Y-12X6000	1	
74		MZ-1000	1	
75		ME-1000	1	
76		HT-1	1	
77		CZ4x7	1	
78		-	10	
79		-	3	
80		-	15	
81		-	5	
82		-	4	
83		ZXG-630	2	
84		CNC-CG4000A	1	
85		-	3	
86		-	26	
87		-	3	
88		-	1	
89		JR-250	1	
90		-	1	
91		RT3-45	1	
92		DRZ-12	1	
93		RT-75	1	
94		75t	2	
95		50t	2	
96		32t	2	
97		20t	1	
98		10t	1	
99		-	1	
100		-	1	

3.1.5 Ñ ñ Â Ě Ě Ň ň

3-6

3-7

3-8

3-9

3-10

î 3-6

Ñ ñ Â Ě

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			t/a	11000	
			t/a	1500	
			t/a	500	
			t/a	2000	
			t/a	4000	
			/a	290	
			/a	290	
			/a	290	
			/a	290	
			/a	290	
			/a	290	
			/a	290	
			/a	290	
			/a	290	
			/a	150	
			/a	150	
			/a	150	
			/a	150	
			/a	150	
			t/a	5.81	

t/a	2.64		
t/a	1.72		
t/a	5.15		
t/a	3.83		
t/a	1.5	100:5	
t/a	1.5		
t/a	1.5		1:5
t/a	5		
t/a	1		
t/a	3		
t/a	80		
t/a	5		

			55	
			5	
	200#		35	
			2	
			3	
	200#		85	
			5	
			10	
			30	
			30	
			20	
			20	
			30	
			15	
			30	
	200#		25	
		30		4
			65	
			3	
100:5				

	20/4	27.2	46.1		
200#		140	-200	20	0.79g/m3
	33				

3

1

3.1.7 Œ œ Ř

300

50

300

8

3.2 á ě

3.2.1 á ř

3.2.1.1

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1 ř/Ř ě ř

/

10~20min

Ś ś

40~60

1-2

2 Ś ğ Ğ ǒ

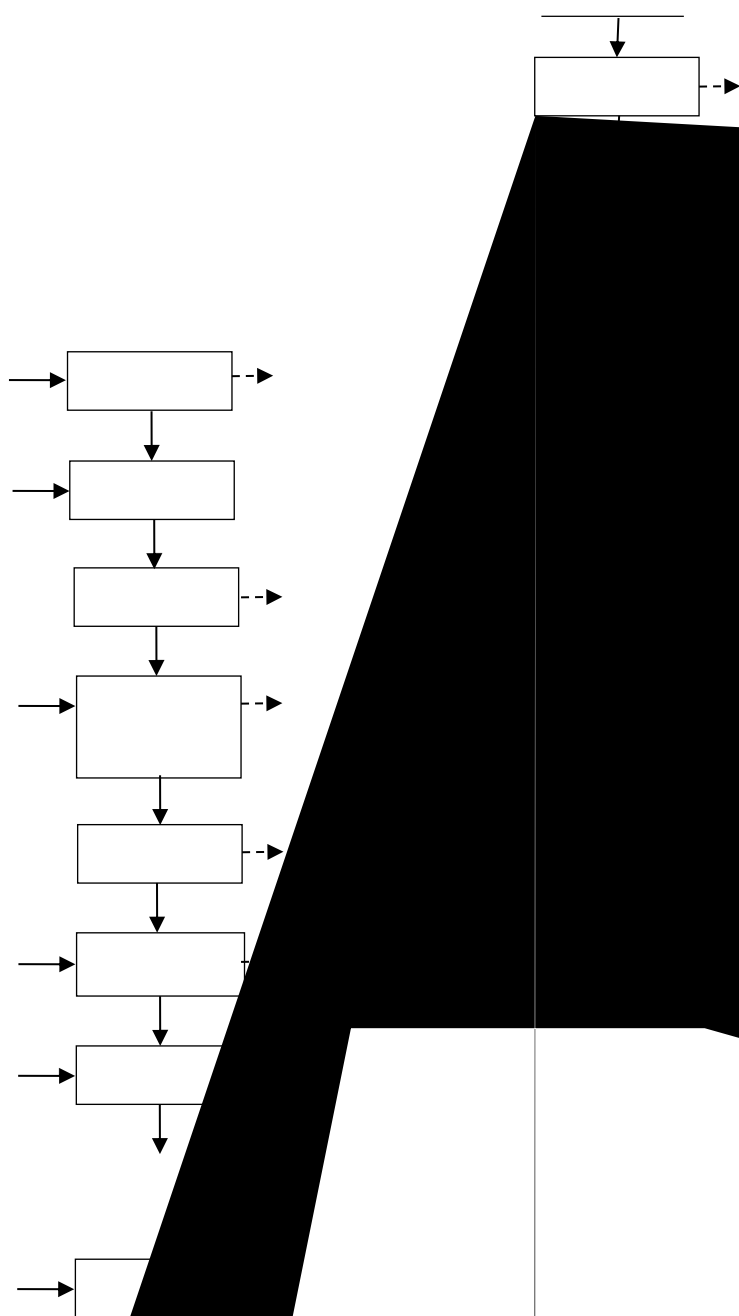
§ §

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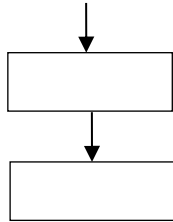
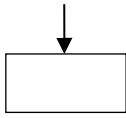
3.2.1.2

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6930.43m³/a

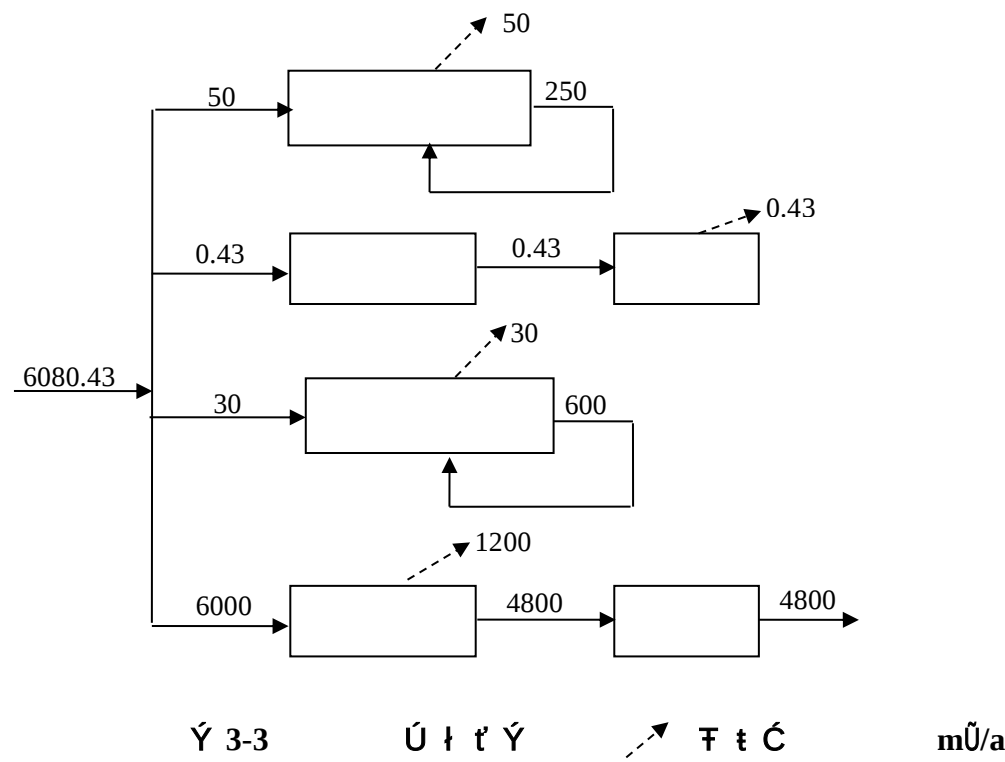
6080.43m³/a

850m³/a

3-11

3-3

ǝ 3-11		ǝ ǝ ǝ ǝ ǝ			m³/a	
		0.43	0.43	0	0.43	0
		300	50	250	50	0
		630	30	600	30	0
		6000	6000	0	1200	4800
		6930.43	6080.43	850	1280.43	4800



3.2.2.2 Ớn ẻ Ể ỉ ỉ

1 ỉ Ể ẻ ỉ Ỗ ỗ ỉ Ớ ỏ ứ

3-12

ỉ 3-12 Ỉ ỉ ỏ ứ ỉ Ớ ầ Ắ ỉ

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t % t % t % t % t % t

5.8 65 2 3 30

1# 2#

2.64 60 2 3 35

1.72 50 20 30

2.11 5 10 85

0.43



+ 19.57

8.547
0.36 0.636 7.551

8.5 P k 8.5 10.077

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8.12 0.342
0.604 7.174

2

3.066

7.011

2.913



2.622 Δ

† † æ Ý

t/a

3.3 ô õ ç ï ú Ł

3.3.1 ũ Ū ô õ ç ï ú Ł

1

2019

100%

24

2

5.0m³/d

SS

2.0m³/d

3

3-13

3-13	3-13	3-13	3-13
			10m
1		95~105	87
2		90~100	83
3		80~90	76
4		75~80	70
5		85~100	80
6		95~110	85
7		80~95	79

4

3.3.2

COD SS NH ₃ -N		

1# 2# 3# 4# 5# 6# 7# 8# 9# 10# 11# 12# 13# 14# 15# 16# 17# 18# 19# 20# 21# 22# 23# 24# 25# 26# 27# 28# 29# 30# 31# 32# 33# 34# 35# 36# 37# 38# 39# 40# 41# 42# 43# 44# 45# 46# 47# 48# 49# 50# 51# 52# 53# 54# 55# 56# 57# 58# 59# 60# 61# 62# 63# 64# 65# 66# 67# 68# 69# 70# 71# 72# 73# 74# 75# 76# 77# 78# 79# 80# 81# 82# 83# 84# 85# 86# 87# 88# 89# 90# 91# 92# 93# 94# 95# 96# 97# 98# 99# 100#

1#

2

1# 2#

1# 2#

1.812t/a 0.247t/a

0.417t/a 4.322t/a

2 “

1

“

+

”

16000m³/h

1200h

1.51kg/h

94mg/m³

0.21kg/h

13mg/m³

0.35kg/h

22mg/m³

3.6kg/h

225mg/m³

1# 2# 3# 4# 5# 6# 7# 8# 9# 10# 11# 12# 13# 14# 15# 16# 17# 18# 19# 20# 21# 22# 23# 24# 25# 26# 27# 28# 29# 30# 31# 32# 33# 34# 35# 36# 37# 38# 39# 40# 41# 42# 43# 44# 45# 46# 47# 48# 49# 50# 51# 52# 53# 54# 55# 56# 57# 58# 59# 60# 61# 62# 63# 64# 65# 66# 67# 68# 69# 70# 71# 72# 73# 74# 75# 76# 77# 78# 79# 80# 81# 82# 83# 84# 85# 86# 87# 88# 89# 90# 91# 92# 93# 94# 95# 96# 97# 98# 99# 100#

1#

1

	4.7%	3.8%	1.5t/a
0.07t/a		0.057t/a	
	“	+	”
	90%		0.064t/a
0.051t/a		3000m ³ /h	600h
	0.11kg/h	36mg/m ³	0.09kg/h
28mg/m ³			
		1#	15m
	20m	“	”
	90%	“	+
90%			0.181t/a
	7.947mg/m ³	0.025t/a	0.021kg/h
1.083mg/m ³		0.042t/a	0.035kg/h
1.829mg/m ³			

1.5t/a

0.18t/a

1000t/a 0.3%

3t/a

3.18t/a

				1
20m	3#	90%		
1.62t/a		15000m ³ /h		1000h
	1.62kg/h	108mg/m ³		92%
	0.13t/a	0.13kg/h	8.64mg/m ³	
		(GB16297-1996)	2	2019
			[2019]76	
Bộ phận	2#	25		
		45t/a	5t/a	

ұ $\hat{W}$

2#

8

15t/a

0.12t/a

90%

0.096t/a

4800m

1.101t/a 0.077t/a 0.155t/a

2.475t/a

1 “ ”

1 “ +

“ +

” 90%

1.8t/a 0.27t/a 5000m³/h

1500h 1.2kg/h 240mg/m³

6000m³/h 1500h 0.18kg/h

30mg/m³

20m 6# “

” 90% “ + ”

90%

0.11t/a 0.092kg/h 4.476mg/m³ 0.009t/a

0.008kg/h 0.386mg/m³ 0.019t/a

0.016kg/h 0.76mg/m³ 0.492t/a

0.376kg/h 18.325mg/m³

GB16297-1996 2 2019

1 3-15

0 0 6 á Ć Ć Ķ Ē Ĩ

				(m³/h)						%	h/a						
					mg/m³	kg/h	t/a						mg/m ₃	kg/h	t/a	mg/m³	kg/h
1#	1# 2#		16000	94	1.51	1.812		+ + +20m 1#	90	1200		7.947	0.151	0.181	10	5.9	
				13	0.21	0.247	-		90	1200		1.083	0.021	0.025	20	5.2	
				22	0.35	0.417	-		90	1200		1.829	0.035	0.042		1.7	
				225	3.6	4.322	-		90	1200		19.51 8	0.371	0.439	60	17	
			3000	36	0.11	0.064	-		90	600							
				28	0.09	0.051	-		90	600					/	12	
				6000	398	2.39	2.862	/ + +20m 2#	98	1200		7.95	0.048	0.057	10	5.9	
2#			15000	108	1.62	1.62	+ +20m 3#		92	1000		8.64	0.13	0.13	10	5.9	
			15000	71	1.07	0.32	+ +20m 4#		92	300		5.689	0.085	0.026	10	5.9	
	3#		4800	71	0.34	0.096	/ + +20m 5#		98	280		3.764	0.029	0.029	10	5.9	
			3000	375	1.13	1.35			98	1200							
			8000	115	0.92	1.101		+ +20m	90	1200		4.476	0.092	0.11	10	5.9	
				85	0.06	0.077	-		90	1200		0.386	0.008	0.009	20	5.2	
				16	0.13	0.155	-		90	1200		0.76	0.016	0.019		1.7	

	258	2.06	2.475	-	6#	90	1200						
	10	0.015	0.018	-		90	1200						
1500	18	0.027	0.032	-		90	1200						
	209	0.31	0.377	-		90	1200	18.32 5	0.376	0.492	60	17	
5000	240	1.2	1.8	-		90	1500						
6000	30	0.18	0.27	-		90	1500						
9600	113	1.08	1.08	+		92	1000						
6000	69	0.41	0.144	+20m	7#	92	350	7.648	0.119	0.098	10	5.9	
				+									
3000	4000	12	12		+20m	99.8	1000	8	0.024	0.024	10	5.9	
					8#								
	-	-	1.041			-	-	-	-	-	1.041	1.0	/

4

3 Ć ę Ę Ż ż

1

3-16

Ĥ 3-16 Û ô õ ć ŭ Ů Ć ĉ Ć Ż ż Ĥ

			mg/m ³	kg/h	t/a
1	1#		7.947	0.151	0.181
			1.083	0.021	0.025
			1.829	0.035	0.042
			19.518	0.371	0.439
			0.447	0.009	0.005
2	2#		7.95	0.048	0.057
3	3#		8.64	0.13	0.13
4	4#		5.689	0.085	0.026
5	5#		3.764	0.029	0.029
6	6#		4.476	0.092	0.11
			0.386	0.008	0.009
			0.76	0.016	0.019
			18.325	0.376	0.492
7	7#		7.648	0.119	0.098
8	8#		8	0.024	0.024
					0.655
		201			0.034
					0.061
					0.931
					0.005

2

3-17

30m³/a

600m³/a

2

2# 1 280m³

50m³/a

250m³/a

3

300 50

150L/d 50L/d

6000m³/a 80%

4800m³/a COD SS NH₃-N

250mg/L 250mg/L 30mg/L

2

20m³ 40m³ 20m³

3-19

0.5t/a

8t/a

19.108t/a

4t/a

39

HW08

900-249-08

2t/a

39

HW08

900-203-08

	HW08	900-203-08	2							
	HW12	900-252-12	2.1					60		
	HW49	900-041-49	3					-		

Á ū ū

80-95dB(A)

			0.604	0.543	0.061
			9.308	8.377	0.931
			0.051	0.046	0.005
			1.041	0	1.041
			0.018	0	0.018
			0.032	0	0.032
			0.629	0	0.629
			0.006	0	0.006
		COD	1.2	0.6	0.6
		SS	1.2	0.6	0.6
		NH ₃ -N	0.144	0.043	0.101
			1900	1900	0
			0.5	0.5	0
			8	8	0
			19.108	19.108	0
			0.1	0.1	0
			2.7	2.7	0
			0.75	0.75	0
			4	4	0
			2	2	0
			2.1	2.1	0
			3	3	0

3.4 Ø Ø \$ Ě

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4.1 ò Ć ş T t ^ ë

4.1.1 ò Ć ş T ~ - t ^

1

Ń 4-5	Ù	Ć ş Ţ	ă Ą Ă ą ā Ą Ń
		24	
PM _{2.5}	/	75µg/m ³	GB3095-2012
PM ₁₀	/	150µg/m ³	
SO ₂	500µg/m ³	150µg/m ³	
NO ₂	200µg/m ³	80µg/m ³	
CO	10.0mg/m ³	4.0mg/m ³	
O ₃	200µg/m ³	160µg/m ³ 8	
	2.0mg/m ³	/	
	200µg/m ³	/	HJ2.2-2018 D
	200µg/m ³	/	
	10µg/m ³	/	

2222

2018

4-1

Ý 4-1

ò 

PM₁₀ PM_{2.5} NO₂

O₃ 90

GB3095-2012

4-6

Œ 4-6

½ ~ ~ ¯

~ - ¤ ^

ò

Ć ş ¯ ¤ ^ ' * A ā Ă Œ

µg/Nm³

µg/Nm³

%

		1h	<0.0005	10	-	0	0
		1h	210~390	2000	0.105~0.195	0	0
		1h	<0.0005	200	-	0	0
		1h	<0.0005	200	-	0	0
		1h	<0.0005	10	-	0	0

4-6

1h

4		W		
5		E		
6		SE		

2

K⁺ Na⁺ Ca²⁺ Mg²⁺ CO₃²⁻ HCO₃⁻ Cl⁻ SO₄²⁻ pH

33

3

4-8

4-8 ó ù Ú Ú . ^ ¢ . ^ 'E'H

1	K ⁺	GB/T 11904-1989	TAS-990AFG KCYQ-019-1	0.05mg/L
2	Na ⁺	GB/T 11904-1989	TAS-990AFG KCYQ-019-1	0.01mg/L
3	Ca ²⁺	EDTA GB/T 7476-1987	50mL	2mg/L
4	Mg ²⁺	GB/T 11905-1989	TAS-990AFG KCYQ-019-1	0.002mg/L
5	CO ₃ ²⁻	DZ/T 0064.49-1993		/
6	HCO ₃ ⁻	DZ/T 0064.49-1993		/
7	Cl ⁻	2.1 GB/T 5750.5-2006	25mL	1.0mg/L

8

SO_4^{2-}

19		≤	mg/L	0.005	
20		≤	CFU/100ml	3.0	
21		≤	CFU/100ml	100	
22		≤	μg /L	700	
23		≤	μg /L	500	
24		≤	μg /L	20.0	
25		≤	mg/L	0.3	GB5749-2006

2

$$S_I=C_I/ C_{I,S}$$

S_I
-
i

C_I
-
i
mg/L

$C_{I,S}$
-
i
mg/L

PH
$$S_{PH}=7.0-pH/7.0-pH_{sd} \qquad PH\leq7.0$$

$$S_{PH}=pH-7.0/pH_{su}-7.0 \qquad pH \geq 7.0$$

$$PH- \qquad pH_{sd}-pH \qquad pH_{sd}-pH$$

3

4-104-11

î 4-10		IJ ij	ó ù ÚÚ · ^ Å ä Ä î		
2019.12.04	K ⁺	mg/L	21.3	29.4	21.4
	Na ⁺	mg/L	35.9	49.6	26.7
	Ca ²⁺	mg/L	68	65	71

	Mg ²⁺	mg/L	40.1	38.0	40.7
	CO ₃ ²⁻	mg/L	0	0	0
	HCO ₃ ⁻	mg/L	323	342	317
	Cl ⁻	mg/L	56.1	48.6	52.6
	SO ₄ ²⁻	mg/L	84	86	76
	pH	/	7.15	7.20	7.18
		mg/L	0.10	0.18	0.11
		mg/L	8.5	15.5	10.8
		mg/L	<0.001	0.039	<0.001
		mg/L	<0.0003	<0.0003	<0.0003
		mg/L	<0.002	<0.002	<0.002
		µg/L	<1.0	<1.0	<1.0
		µg/L	<0.1	<0.1	<0.1
		mg/L	<0.004	0.006	0.011
		mg/L	337	321	347
		µg/L	3.1	3.8	4.1
		mg/L	0.2	0.4	0.3
		µg/L	<0.5	<0.5	<0.5
		mg/L	<0.03	<0.03	<0.03
		mg/L	<0.01	<0.01	<0.01
		mg/L	589	654	582
		mg/L	1.3	<0.5	0.9
		mg/L	84	86	76
		mg/L	56.1	48.6	52.6
		CFU/100mL			

		CFU/mL	64	74	81
		mg/L	<0.01	<0.01	<0.01
		mg/L	<0.01	<0.01	<0.01
		mg/L	<0.01	<0.01	<0.01
		mg/L	<0.01	<0.01	<0.01
		m	130	100	80
		m	81	89	44
2019.12.05	K ⁺	mg/L	23.5	31.4	21.5
	Na ⁺	mg/L	29.2	42.8	25.4
	Ca ²⁺	mg/L	72	61	68
	Mg ²⁺	mg/L	39.6	39.7	44.6
	CO ₃ ²⁻	mg/L	0	0	0
	HCO ₃ ⁻	mg/L	329	335	323
	Cl ⁻	mg/L	54.3	46.5	48.9
	SO ₄ ²⁻	mg/L	81	83	79
	pH	/	7.09	7.12	7.08
		mg/L	0.08	0.14	0.08
		mg/L	8.1	14.8	11.7
		mg/L	<0.001	0.032	<0.001
		mg/L	<0.0003	<0.0003	<0.0003
		mg/L	<0.002	<0.002	<0.002
		µg/L	<1.0	<1.0	<1.0
		µg/L	<0.1	<0.1	<0.1
		mg/L	<0.004	0.008	0.009

		mg/L	345	318	345
		µg/L	2.8	3.3	4.3
		mg/L	0.3	0.5	0.2
		µg/L	<0.5	<0.5	<0.5
		mg/L	<0.03	<0.03	<0.03
		mg/L	<0.01	<0.01	<0.01
		mg/L	582	632	579
		mg/L	1.1	<0.5	0.8
		mg/L	81	83	79
		mg/L	54.3	46.5	48.9
		CFU/100mL			
		CFU/mL	68	79	86
		mg/L	<0.01	<0.01	<0.01
		mg/L	<0.01	<0.01	<0.01
		mg/L	<0.01	<0.01	<0.01
		mg/L	<0.01	<0.01	<0.01

4-11 IJ ij ó ù Ú 1 Ú ı ^ A æ Ê ã Ä ı

		m	m
2019.12.04		140	51
		200	43
		130	33
		130	81
		100	89
		80	44

GB/T 14848-2017

2	COD	≤30mg/L
3	NH ₃ -N	≤1.5mg/L

2

$$S_{ij}=C_{ij}/C_{sj}$$

$$S_{ij}--$$

$$C_{ij}-- \text{mg/L}$$

$$C_{sj}-- \text{mg/L}$$

pH

$$S_{pHj}=\frac{7.0-pH_j}{7.0-pH_{sd}} \quad pH_j \leq 7.0 \quad S_{pHj}=\frac{pH_j-7.0}{pH_{su}-7.0} \quad pH_j > 7.0$$

$$S_{pHj}--pH_j$$

$$pH_j--j \quad pH$$

$$pH_{sd} \quad pH_{su} -- \quad pH$$

3

4-14

4-14 4-14 4-14 4-14 4-14 4-14

	COD	18.7~23.6	21.2	0.62~0.79	
		3.76~4.56	4.12	2.51~3.04	
		0.32~0.37	0.35	/	/
	COD	11~43	/	0.37~1.43	
		0.1~12.6	/	0.067~8.4	

COD

COD

1

“

”

2020

2020

96%

90%

95%

85%

2

“

”

2020

“

”

2020

95%

80%

5

2020

4.4 û Ć ş Ț ț ^ ë

4.4.1 û Ć ş T t ^

1

1m

4

1

2

2019 12 4 2019 12 5

2

3

Ld

Ln

4

4-15

4-15 ũ Ć ı ^ ú Ľ ċ ā Ă í

1

AWA5688

GB 12348-2008

2		GB 3096-2008	AWA5688 KCYQ-047-3	/
---	--	--------------	-----------------------	---

4.4.2 0 3 7

1

2

4-16

1 4-16 0 3 7 4 5 6 7 dB(A)

2019.12.04		52	43	(GB3096-2008)3 65dB(A) 55dB(A)
		55	45	
		54	44	
		51	42	
		53	41	
2019.12.05		52	44	
		54	46	
		55	43	
		52	42	
		51	42	

GB3096-2008 3

5.1 Ù B ^ ë

0.098t/a	0.119kg/h	7.648mg/m ³
	8#	0.024t/a
0.024kg/h	8mg/m ³	
1.041t/a	0.018t/a	0.032t/a
0.629t/a	0.006t/a	
10%		
	100m	

5-1

	表 5-1 大气污染源调查表	表 5-2 大气污染源调查表	
		☑	
SO ₂ +NO _x	=50km 2000t/a	=5~50km	=5km☑

			C	10%	C	>10%
			C	30%	C	>30%
	1h	h	C	100%	C	>100%
		C			C	
		k -20%			k>-20%	
		PM ₁₀	☒ ☒			
		☒				
		) 0 m				
		SO2:(0)t/a	NOx:(0)t/a		:(0.655)t/a	VOCs:(1.031)t/a
“ ” “ ” “ ”						

5.2 6 1 U u l

5.2.1 U C e k E C e F A

4800m³/a

HJ2.3-2018

B

5.2.2 E o U f e u Z A u l

1

COD 50mg/L NH₃-N 5mg/L

2

16m /d

5.2.3 6 1 U u l

GB18918-2002

A

5-2

		</									
--	--	---	--	--	--	--	--	--	--	--	--

“ ”

“ ”

“ ”

5.3 6 ù Ó ú ĸ

HJ610-2016

6km²

1km

2km

1km

HJ610-2016

GB16889

GB18597 GB18598 GB18599 GB/T50934

100d 1000d COD

780m

2000m

5.4 0 B ^ ě

80-95dB(A)

80-95dB(A)

GB12348-2008 3

5.5 ž ĝ ć ú Ľ

1

2

1

GB18597-2001 2013

GB18597-2001

2013

2

HJ2024-2012

[2012]18

30

a.

:

b.

c.

d.

e.

f.

b.

c.

10m

d.

(5)

2

“

” “ ”

(1)

(2)

	25L/s	90m ³ /h	
1h		90m ³	90m ³ /

100m³

(3)

		G1 ☐	G2	G3 ☐
		D1 ☐	D2 ☒	D3 ☐
Q	$Q \geq 1$ ☐	$1 \leq Q \leq 10$	$10 \leq Q \leq 100$ ☐	$Q \leq 100$ ☐
M	M1 ☐	M2 ☐	M3 ☐	M4
P	P1 ☐	P2 ☐	P3 ☐	P4
	E1 ☐	E2	E3 ☐	
	E1 ☐	E2 ☐	E3	
	E1 ☐	E2	E3 ☐	
$+$ ☐	☐	☐	I ☐	
	☐	☐		

7.1 Ů Ů Ů ô õ â á Æ ů ú Ľ

7.1.1 ô õ â á Æ ů ú Ľ

1# 2#

7.1.1.2 ů Ů á ē Æ ů

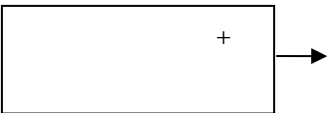
1

1

1#

7-2 2#

7-3



Ý 7-2 1#Ω Ĩ Œ Š ā ĝ ů ğ Ũ Œ è f ē í R Ý

2

1#

2#

1#

1 20m

90% 98%

2#

1 20m

90% 92%

1 20m

90%

92%

1

20m

90%

98%

1

20m

90%

92%

20m

120

99%

GB16297-1996 2

2019

[2019]76

7.1.1.2 ă ů Ů Ć ĉ ô õ â á Æ ů

4

24

7.1.2 Ů ô õ â á Æ ů ú Ľ

7.1.2.1 Ú á f ē f Ÿ ø

1

30m³/a

600m /a

2

50m³/a

250m /a

7.1.3 ž â áÄü ú Ľ

7.1.3.1 ā í ž ĝ ć â áÄü ú Ľ

150m²

$$Mb \geq 1.5m \quad K \leq 10^{-7} \text{cm/s}$$

GB18599-2001 2013

7.1.3.2 ŷ ý ć â áÄü ú Ľ

50m²

1 15

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5

7-5

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1#		pH	1 /

7.2 7.2 γ Æ ũ

1 7-6

o o a a / E u e G “L z n” T ~ a A 1

	1#	1# 2#				+	+	+20m	1#	(GB16297-1996) 2 2019 [2019]76
					-					
					-					
					-					
					-					
					-					
					/	+	+20m	2#		
	2#				+		+20m	3#	(GB16297-1996) 2 2019	
					+		+20m	4#	[2019]76	
		3#			/		+	+20m	5#	[2017]162 1 GB14554-93 2 10mg/m³ 5.9kg/h 20mg/m³ 5.2kg/h 1.7kg/h 60mg/m³ 17kg/h 12kg/h
						+	+	+20m	5#	
					-					

						-			60mg/m ³ 17kg/h			
						-						
						-						
						-						
						-						
						-						
						-						
						-						
										+	+20m	7#
										(GB16297-1996) 2 2019 [2019]76 10 mg/m ³ 5.9kg/h		

4

GB16297-1996

[2017]162
GB14554-93

1.0mg/m³ 0.6mg/m³
0.2mg/m³ 2.0mg/m³
5.0mg/m³

COD 390mg/L
SS 200mg/L
NH3-N 35mg/L

150m²

65dB A
55dB A

250mm)+		(	1.0mm)
Mb	6.0m	K	$1 \cdot 10^{-7}$ cm/s
250mm)+		(	1.0mm)
Mb	6.0m	K	$1 \cdot 10^{-7}$ cm/s

-

7.3.2

ÿ ð ę ε ż

582

7-7

î 7-7

ÿ ù ð ę ε ż î

1# 2#

1#

-					
-					
-					
-					
-					
-					
-					
-					
	+	+20m	7#	1	10
+		+20m	8#	1	10
4				-	50
				1	3 22
				1	5 22
				3	5

8.1 ú Ľ

8.1.1

8.1.3 ̈́θ“È Í Ě”ᲛÓ ô õ ć â á ć ħ μ
“ ”

+
90% “ ”

8.1.4 ̈́θ ô õ â á ħ € S Í ÅŒ “ 2018—2020 μ

2018—2020 2018 20

î 8-1 ú ĸ ā Ă î

î 8-3

ú ĺ ā Ă î

8.1.7 ë ÿ ʌ Ł Ɔ ā ʁ ð ú ĺ

1

“ “

”

7

“ ”

2

GB12348-2008 3

“ ”

8.2 β Ÿ Z A ú Ł

8.2.1 ó ě č

200m

8.2.2 Z A ú Ł

8.2.2.1 ě θ ¬ ® ě Ğ ğ Ğ Ğ Ĥ Ğ ĥ Ĥ Ć ħ Ĩ ĩ Ĭ ĭ μ

θ ¬ ® ě ĩ Ĩ Ğ ğ Ó Ô 2015-2020 μ ú Ł

1

[2015]33 6

2

8-4 ④ ǐ ǎ ǎ ǎ ǎ ǎ ǎ

8-5 ④ ǐ ǎ ǎ ǎ ǎ ǎ ǎ

5470m

5440m

2 ẽ Ú ĥ Ĳ ú Ľ

2018 56

HZ019+447.4~HZ028+486.1 9038.7m

100m 1000m

5300m

GB3095-2012

HJ2.2-2018

D

3 Ñ à á â ã ä å

100m

8.2.2.3 Ć ş Ţ ẽ

1

				PM ₁₀	PM _{2.5}	NO ₂
	O ₃	90				GB3095-2012
				1h		
				1		
				HJ2.2-2018	D	
						GB/T
14848-2017						
			COD			GB3838-2002
				COD		

5

6

Ц Ü Ů А Б ψ ¬ ® ё і ї î ï Ç В Г Б Д ó Е Ž
Ж ĵ ó Б З И Е ψ Й К Л Ї М Ж ê Б Й і ї Н
β Ÿ Й Ĵ ĵ Ú Ě ó Ú Ĥ Ь Ç Ķ ŷ ã Н ċ à á â
ã ä å Ç ž О П Н Ć Ĭ Р Н В ^ Å î С Б ü ő Т
У ô õ ċ Ф ç ş Х Ā Ĉ ĉ Б И Ù Б Ц Z ŷ Ч ş °
Ú ħ Н Ј Ш ů І Щ Ъ Ы Ь Э ŷ Ю Ŕ Я а Б б Щ Б β Ÿ Z Å Ъ

9.1 в г д е ú ĺ

9.2 в г ж е ú ĺ

2

45000

9-1

î 9-1		в г к Æ î	
Đ ø		к Æ	
1		45000	/
2		50000	
3		4500	
4		10000	

$$H_z = \frac{EO}{ER} \times 100\%$$

EO

ER

50

50000

0.1%

9.3.1.2 ж е ú ĺ

1 ô õ Z ð д ı ú ĺ

2 з и ŷ Æ ũ Т Б ô õ ś й к қ Ё

9.4 л м ж е ú ĺ

50000

4500

Ц Ü Ő А Б

ð н Б Љ о п р Ј Б í ж е Р Б с Û Ř Ŭ т

ω у ó в г Ó Ô Б ф Ї л м ѓ Ѧ х Б ц Ѧ А ω ĭ Н ŷ ů
 ѓ ĭ ч ô ѓ ć Ć ĉ ŷ ш щ ъ Ā ā Ъ ŷ Æ ů ę Ě Ć Й ы ĵ ω Å
 ь ѓ ę Б ŷ ă э Б Š ю э ę Ě Б ч ô ѓ ć я è ё ó f ę ħ X Ā Ć ĉ Б ģ
 Ó Ô в г ζ η Б ч И ы е è s i Ĥ Б Э ġ в г ġ
 л м же Ć Й ú Ľ Б ½ ĭ Z Å Ъ

4

10.1.3 Š ē *

1

a.

“ ”

2

a.

b.

c.

d.

e.

10.1.4 ô õ ć Ć ĉ š ě

1

10-1

10-1

ô õ ó á ē Æ ũ æ Ğ î

1#	2#	-				7.947mg/m ³ 0.151kg/h	(GB16297-1996) 2019	2	
		-	+			1.083mg/m ³ 0.021kg/h			[2019]76
		-	+	+20m 1#	19000 m ³ /h	1.829mg/m ³ 0.035kg/h	[2017]162	1	GB14554-93
		-				19.518mg/m ³ 0.371kg/h	2	10mg/m ³ 5.2kg/h	5.9kg/h 20mg/m ³ 1.7kg/h
		-				0.447mg/m ³ 0.009kg/h		60mg/m ³ 12kg/h	17kg/h
2#		/	+	+20m 2#	6000m ³ /h	7.95mg/m ³ 0.048kg/h	(GB16297-1996) 2019	2	
		+		+20m 3#	15000 m ³ /h	8.64mg/m ³ 0.13kg/h			[2019]76
		+		+20m 4#	15000 m ³ /h	5.689mg/m ³ 0.085kg/h	[2017]162	1	GB14554-93
							2	10mg/m ³ 5.2kg/h	5.9kg/h 20mg/m ³ 1.7kg/h
		/	+	+20m 5#	7800m ³ /h	3.764mg/m ³ 0.029kg/h		60mg/m ³ 12kg/h	17kg/h

			GB16297-1996	
				[2017]162
4	-	-	GB14554-93	
			1.0mg/m ³	0.6mg/m ³
			0.2mg/m ³	
			2.0mg/m ³	5.0mg/m ³
	20m	-		
	250m	-		
	2	COD		
	20m	125mg/L		
	1	SS 125mg/L	COD	390mg/L
	40m	NH ₃ -N		
		21mg/L		

		-	-	65dB	A
		-	-	55dB	A
(	(	250mm)+			
		1.0			

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[1999]24

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VOCs

COD NH₃-N

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		ô õ ç è	Ĝ Ğ Ğ μ κ Ā	
			0.655	
	VOCs		1.031	
		COD	0.6	
		NH ₃ -N	0.101	

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GB12348-2008 3

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(GB16297-1996) 2
2019

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[2019]76

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+20m

1# [2017]162

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GB14554-93

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1#

- 60mg/m³ 17kg/h

-

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+ +20m 7#

+ + +20m 8# (GB16297-1996) 2
2019

GB16297-1996

4

[2017]162
GB14554-93

65dB A
55dB A

250mm)+
Mb 6.0m (1.0mm)
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11.1.6

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100m

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