

鼎信实业特种新材料升级改造及配套项目
环境影响报告书
(报批稿)

	.....	1
1.	.....	1
2.	.....	2
3.	.....	2
4.	.....	3
5.	.....	3
1	.....	1
1.1	.....	1
1.2	.....	5
1.3	.....	5
1.4	.....	6
1.5	.....	10
1.6	.....	12
1.7	.....	20
1.8	.....	23
2	.....	24
2.1	.....	24
2.2	.....	27
2.3	.....	34
2.4	.....	42
2.5	.....	46
2.6	.....	84
2.7	.....	91
2.8		

	6.2	.....	264
	6.3	.....	265
	6.4	.....	267
	6.5	.....	269
	6.6	.....	277
7		.....	280
	7.1	.....	280
	7.2	.....	282
	7.3	.....	289
	7.4	.....	289
8		.....	291
	8.1	.....	291
	8.2	.....	291
	8.3	.....	291
9		.....	293
	9.1	.....	293
	9.2	.....	294
	9.3	.....	295
	9.4	.....	297
	9.5	.....	308
	9.6	.....	310
10		.....	316
	10.1	.....	316
	10.2	.....	316
	10.3	.....	316
	10.4	.....	323
	10.5	.....	323
	10.6	.....	324
	10.7	.....	324

- 1
- 2
- 3
- 4
- 6
- 7
- 8
- 9
- 10

1.

30
10
20 50
80
10 2009 5
7 [2009]25
2011 4
2011 8 2011 9
20 50
2010 5 20 50
2011 9 2013 4
2013 5
2013 22 2014 3
2014 6
850mm
80 2014 7
2015 7 2015 35
2
2 2016 12
2017 1 2017 1
C N H O

3.2

VOD

VOD

LF

VOD

4.

15

VOD

LF

2019

(2011~2030)

5.

1

1.1

1.1.1

1	2014	4	24		
2		2018	12	9	
3		2017	6	27	
4		2018	10	26	
5		2022	6	5	
6			2020	4	29
7		2018	8	31	
8		2010	12	25	
9		2012	2	29	
10			682	2017	7
11		736	2021	3	1
12	748	2021	12	1	
13		2022	5	1	
14		2019	1	1	
15	2021	11	1		
16		2022	9	1	

1.1.2

1		2021			16
2021	1	1			
2			4	2019	1 1
3					2012 77
2012	7	3			
4					2012 98
2012	8	7			
5					2016

150 2016 10 26

6

2015 78

7

() 2015 4

8

34 2015 6 5

9

2015 163

10

2019

7 6

11

< 2012

> <

2012 >

2012 98

12

2020 12

13

2021 11

14

2018 22 2018 7 3

15

[2015]17 2015 4

16

[2016]31 2016 5 28

17

[2018]25

18

2015 6

19

2016 10

20

2015 7 22

21

2017 3 27

22

2019 3 3

23

[43]

2017 8 29

24

10 GB 18218-2018
 11 2021
 12 HJ884-2018
 13 GB/T 39499-2020
 14 2019
 15 HJ819-2017
 16 HJ 1117-2020
 17 HJ1121-2020
 18 HJ164-2020
 19 HJ 1209-2021

1.1.4

1
 2
 3
 4
 5 2013 4
 6 2013 22
 7 2014 9
 8 2014 54
 9 2014 3
 10 2016 12
 11 91350981671942576Q001P
 2021 6 30
 11

1.2

1.2.1

1.2.2

1

2

3

5

6

7

8

1.3.2

1.4

1.4.1

/	/	
		61
	/	40.2
	/	-1.9
		90m
	/	
	/m	1460
	/°	/

$C_m \text{ mg/m}^3$

$P_i \%$

10%

$D_{10\%} \text{ m}$

1.4.2

1.4.2

			C_i 3	C_0 mg/m^3	P_i %	$D_{10\%}$ m	
1	LF	PM ₁₀	8.7559	0.45	1.95	0	
		PM _{2.5}	4.3780	0.225	1.95	0	
			0.0584	0.02	0.29	0	
2	VOD	PM ₁₀	0.6874	0.45	0.15	0	
		PM _{2.5}	0.3437	0.225	0.15	0	
			0.1375	0.02	0.69	0	
3	3#~5#	PM ₁₀	106.6900	0.45	23.71	600	
		PM _{2.5}	53.3450	0.225	23.71	600	
			1.7085	0.02	8.54	0	
4	3# 4#	PM ₁₀	109.0300	0.45	24.23	603	
		PM _{2.5}	54.5150	0.225	24.23	603	
			1.6477	0.02	8.24	0	

3# 4#

PM₁₀ Pmax=24.23% 10%

2

$D_{10\%}=603\text{m}<2500\text{m}$

H2.2-2018

5km

2.5km

1.7-1

1.4.2

HJ2.3-2018

B

1.4.3

1

HJ610-2016 A

1.4.3

G				
45		/		

HJ610-2016

2

2

HJ610-2016

L

m

1

2

K

m/d

I

T

30

10950d

ne

1.4.4

	a		2	
	K	m/d	0.39	
	I		0.02	
	T	d	10950	30
	n _e		0.3	
	L	m	570m	
	L/2	m	285m	
	L	m	100m	L/2

100m

570m

285m

100m

285m

1.4.4

1

GB3096-2008

3

200

HJ2.4-2021

2

200m

1.4.5

Q 1

I

1.4.6

1

HJ964-2018

II

29.75hm²

2

0.05km

1.4.5

1.4.7

HJ19-2022

1.5

1.5.1

1.5.1 1.5.2

1.5.1

			$L_{Aeq}dB(A)$		
			TSP CO NO _x		
			SS COD NH ₃ -N		
			COD _{cr} SS		
		VOD	L_{Aeq}		

1.5.2

		-1S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1S
		0	-1S	-1S	0	-1S	0	-1S	0	0	0	0	0	0	0	0	0	-1S
		0	0	0	-1S	0	0	0	0	0	0	0	0	0	0	0	0	-1S
		-1S	0	-1S	0	-1S	0	0	-1S	0	0	0	0	0	0	0	0	-1S
		0	0	0	0	0	0	0	0	0	-2L	+2L	0	-1L	0	+2L	+2L	-1L
		-2L	0	0	0	-1L	-1L	0	0	0	0	0	0	0	0	0	0	-1L
		0	0	-1L	0	-1L	0	0	0	0	0	0	0	0	0	0	0	-1L
		0	0	0	-2L	0	0	0	0	0	0	0	0	0	0	0	0	-1L
		-1L	0	-1L	0	-1L	0	0	-1L	0	0	0	0	0	0	0	0	-1L
		-3S	-2S	-2S	0	-2S	-2S	-2S	0	0	0	0	0	0	0	0	0	-2L

1.

2.

3.

1.5.2

1.5.3

1.5.3

		SO ₂	NO ₂	PM ₁₀	PM _{2.5}	CO	O ₃	TSP
		PM ₁₀	PM _{2.5}					

A Leq

1.6

1.6.1

1

1.6-1

2

2011 45

FJ013-C-

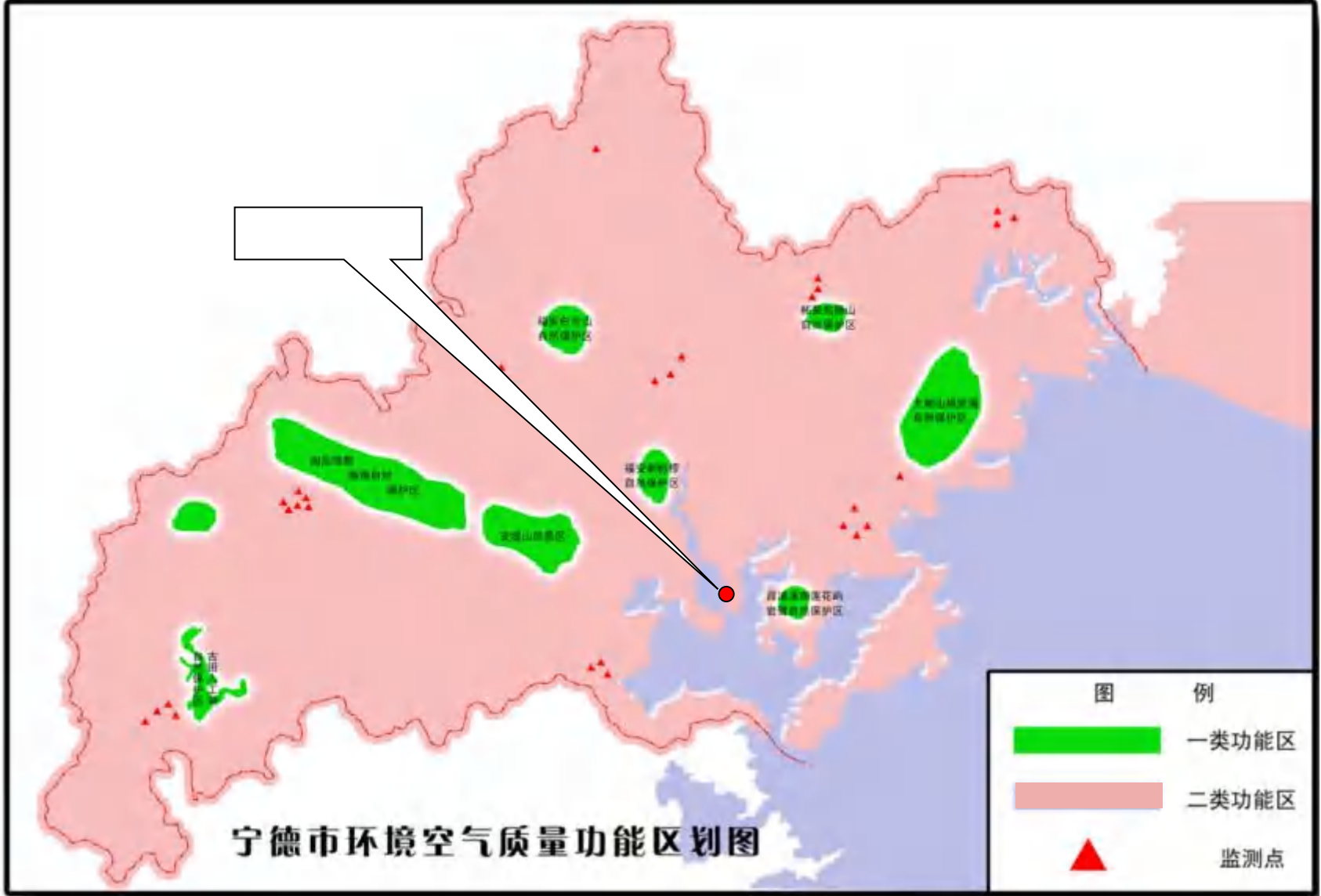
FJ015-D-

1.6-2

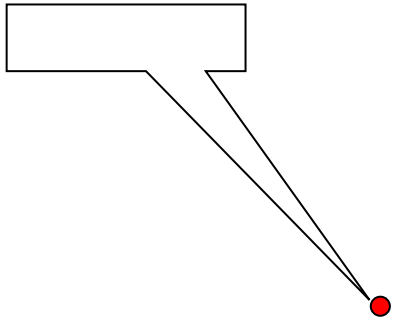
3

GB 3096-2008

3



1.6-1



1.6-2

1.6.2

1

GB3095-2012

1.6.1

1.6.1

1	SO ₂		60	3	GB3095-2012
		24	150		
		1	500		
2	NO ₂		40		
		24	80		
		1	200		
3	O ₃	8	160		
		1	200		
4	PM ₁₀		70		
		24	150		
5	PM _{2.5}		35		
		24	75		
6	TSP	24	300		
7	F	24	7		
		1	20		
8	Pb		0.5		
			1		
9	Cd		0.005		
10	Hg		0.05		
11	As		0.006		
12			0.000025		
13			1	3	

2

[2011]45

1.6.2

					(km ²)				
	FJ013-C-			26°50 6.5 119°40 58.8	35.65				
	FJ015-D-			11	9.59				

1.6.3

mg/L

pH	7.8~8.5		6.8~8.8	
(DO)	6	5	4	3
	2	3	4	5
	0.015	0.030		0.045
	0.20	0.30	0.40	0.50
(S	0.02	0.05	0.10	0.25
	0.05		0.30	0.50
	0.005		0.010	0.050
	0.00005	0.0002		0.0005
	0.001	0.005	0.010	
	0.001	0.005	0.010	0.050
	0.05	0.10	0.20	0.50
	0.020	0.030	0.050	
	0.005	0.010	0.050	
	0.020	0.050	0.10	0.50
	0.005	0.010	0.020	0.050

3

GB/T14848-2017

1.6.4

1.6.4

		I	II	IV	V
1	pH				pH<6.5 pH>9.0
2	(CaCO ₃ ,)/(mg/L)				>650
3	/(mg/L)	0			>2000
4					
5					>350
6					
7	/(mg/L)				

4

GB 3096-2008 3

1.6.5

1.6.5 **dB(A)**

3	65	55

5

GB36600-2018 1 2

1.6.6

GB15618-2018 1 1.6.7

1.6.6 **mg/kg**

		CAS	
1		7440-38-2	60
2		7440-43-9	65
3	()	18540-29-9	5.7
4		7440-50-8	18000
5		7439-92-1	800
6		7439-97-6	38
7		7440-02-0	900
8		57-12-5	135
9		56-23-5	2.8
10		67-66-3	0.9
11		74-87-3	37
12	1,1-	75-34-3	37
13	1,2-	107-06-2	5
14	1,1-	75-35-4	66
15	-1,2-	156-59-2	596
16	-1,2-	156-60-5	54
17		75-09-2	616
18	1,2-	78-87-5	5
19	1,1,1,2-	630-20-6	10
20	1,1,2,2-	79-34-5	6.8
21		127-18-4	53
22	1,1,1-	71-55-6	840
23	1,1,2-	79-00-5	2.8
24		79-01-6	2.8
25	1,2,3-	96-18-4	0.5
26		75-01-4	0.43
27		71-43-2	4
28		108-90-7	270
29	1,2-	95-50-1	560

30	1,4-	106-46-7	20
31		100-41-4	28
32		100-42-5	1290
33		100-88-3	1200
34	+	108-38-3,106-42-3	570
35		95-47-6	640
36		98-95-3	76
37		62-53-3	260
38	2-	95-57-8	2256
39	[a]	56-55-3	15
40	[a]	50-32-8	1.5
41	[a]	205-99-2	15
42	[k]	207-08-9	151
43		128-01-9	1293
44	[a]	53-70-3	1.5
45	[1,2,3-cd]	193-39-5	15
46		91-20-3	70
47		-	4×10 ⁻⁵
A			

1.6.7

			pH						
			5.5	5.5	6.5	6.5	7.5	7.5	
1			0.3		0.4		0.6		0.8
			0.3		0.3		0.3		0.6
2			0.5		0.5		0.6		1.0
			1.3		1.8		2.4		3.4
3			30		30		25		20
			40		40		30		25
4			80		100		140		240
			70		90		120		170
5			250		250		300		350
			150		150		200		250
6			150		150		200		200
			50		50		100		100
7			60		70		100		190
8			200		200		250		300

1.6.3

1.6.3.1

VOD LF

[2019]35 2

10 /

GB25467-2010 5

GB 28666-2012 5

1.6.8

	VOD LF		10	[2019]35
			4	GB28666-2012 5
			3	GB25467-2010 5
			4.3	
			0.7	

[2019]35

2025

[2019]35 2

10mg/m³

50mg/m³

200mg/m³

[2019]35 2

10mg/m³

50mg/m³

200mg/m³

GB28666-2012

7

1.0mg/m³

0.006mg/m³

1.6.3.2

1.6.9

1.6.9

pH	/	7~9
	ppm	30
	ppm	600~800
	ppm	150
	ppm	300
	ppm	500
SiO ₂	ppm	120
	ppm	5

1.6.3.3

(GB12523-2011)

1.6.10

(GB12348-2008)

3

1.6.11

1.6.10

dB A

70		55
6:00-22:00)	22:00- 6:00	

1.6.11

dB A

3	65	55

1.6.3.4

2021

GB5085.1 7-2007

GB18597-2023

GB 18599-2020

1.7

1.7.1 1.7-1

1.7.1

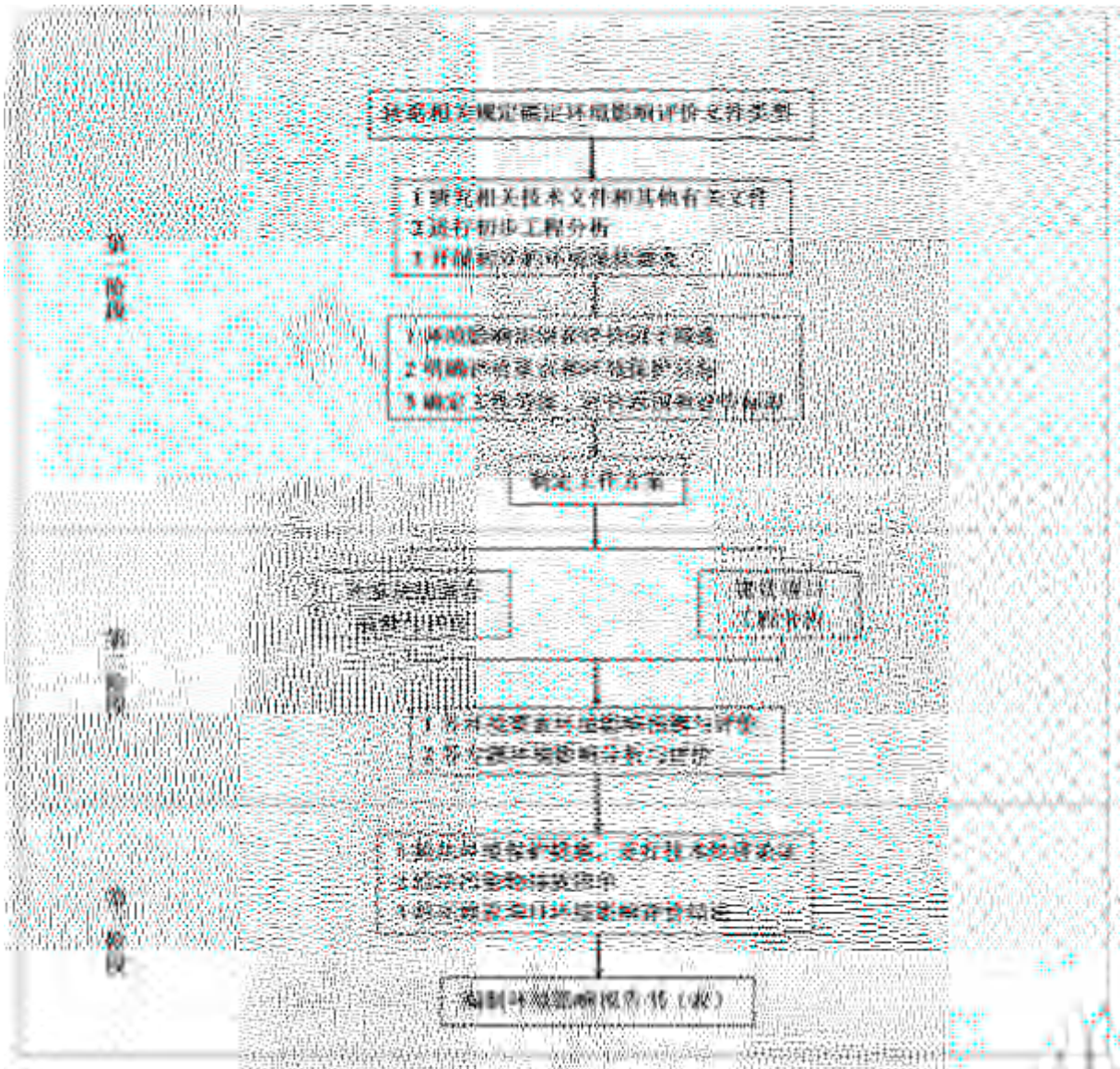
			(m)		
		W	1000		
		NW			



1.7-1

1.8

1.8-1



1.8-1

2

2.1

2.1.1

30

10

20

50

80

2.1.1

2.1.2

2.1.2

2.1.2

	10 /	20 / 10 / 50	1 82 t/a 850mm 16.8
	10 /	50 /	80 t/a 16.8 t/a 98.3% 12

2.1.1

	10			2009 5 7 [2009]25	
	30 (10)	10	2 5 / RKEF	2011 8 4 2011 9	2011 9 27 ([2011]11)
		18 2.772	1 RKEF 18 2.772	2023 3 7 [2023]3	
		20 50	RKEF 3 6.67 / 20 75t 1 75t 4 10 30 50	2013 5 13 2013 22	2014 3 26 2014 6
				2014 9 30 2014 54	
		80 8	1		

			16.8 12 98.3%	2015 7 31 2015 35	2020 1 4
	20.8	8	1 81.6 t/a 6	2017 1 26 2017 1	
	16.8 80		t/a 10.3 t/a 62 15 t/a 62 t/a 4.1 1 18 t/a 1 7.5m ³ /h	2019 12 14	
	20 t/a		20 t/a 20	2016 12 30 [2016]142	2017 9 29 2017 26
	20	2	2	2016 3 23 [2016]23	2018 2 8

2.2

2.2.1

2.2.1

2.2.1

1		1 1 25t/h	1 25t/h 1
2		1 5	1 7.4
		5×40m 1 2 1	5.0m×40m 1 3 2
		50mm 1	50mm
3		1 100t	
		-	
		800 5 3	-
		3 1 4 1 2	3 3 3 1 1
		1 2 4.4 100m	4m×100m 1 3
4		33000kVA 1 2	33000kVA 1 3
		-	4 75t 1 75t
1	35KV	74318kW 376388 10 ³ kWh	

2		10000m ³ /h 1 5.0m 50.0m ³	
3		4 GA35558.2m ³ /min 2 GA7512.3m ³ /min	
4			
5		1 1300m ² (50%) 1 800m ² 23%	/
6			/





2.2-1

2.2.2

2.2.2






2.2.2

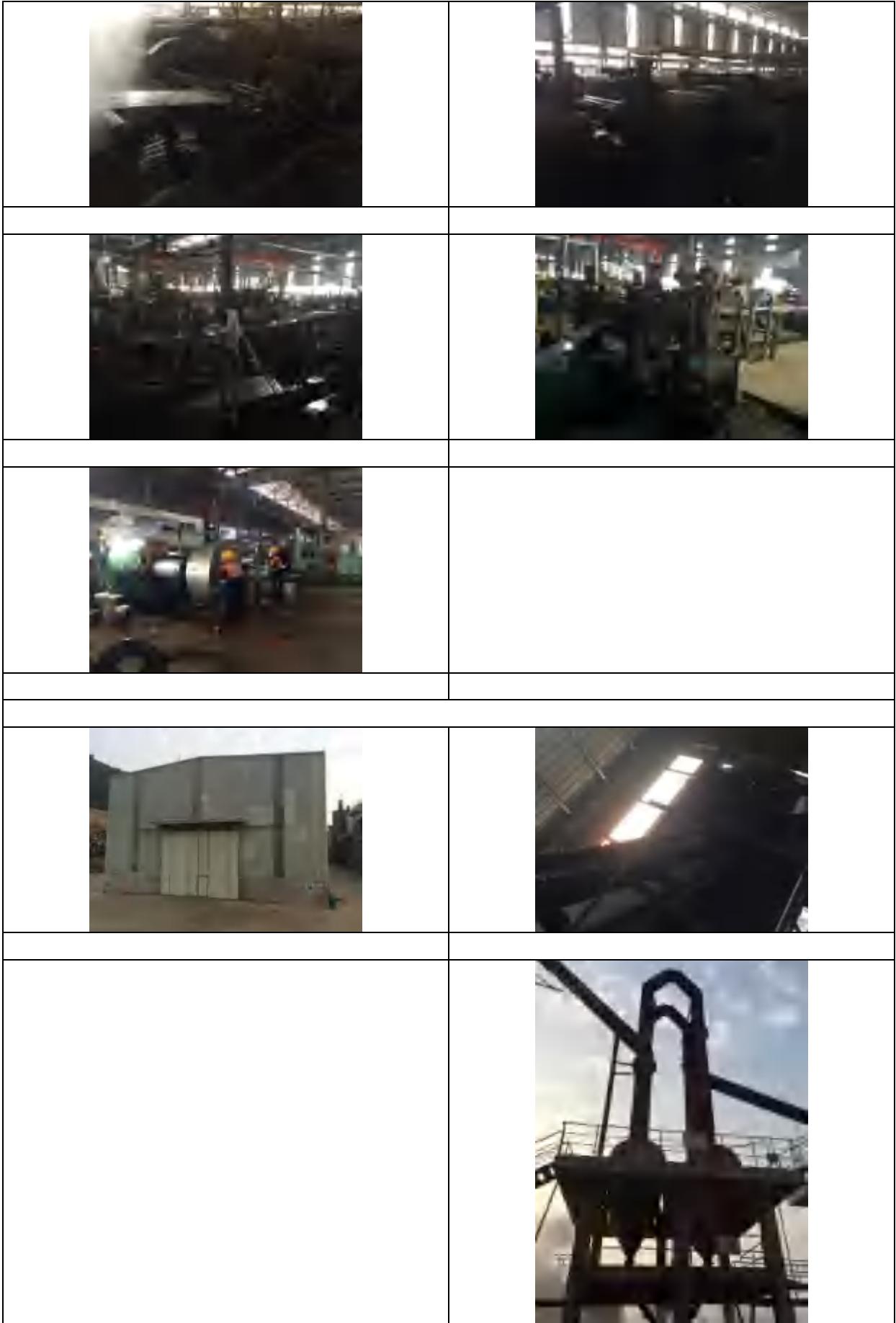
1		1	16.8	12 98.3%
2		1	81.6	t/a
3		6	10.3	t/a 62 t/a
4		15	5.3	t/a 80 t/a
		+		18 t/a
1		2	6	
		2	1	3.6m
			1	3.6m
			4000m ³ /h	
2				








3		1	7.5m ³ /h

2.2.3

	
	 ()
	 ()
	 ()
	



2.3

2.3.1

RKEF

RK

EF

SiO₂ 2 Fe Ni O SiO₂ 750
900 1100

RKEF

R10

2.3-1

2

750 800

SO₂

3

850

SO₂

320

4

0.2g/m³

5

6 10%

6

93 ~95

0.1g/m³

SO₂

93

~95

7

3+2

99.75

8

98.3

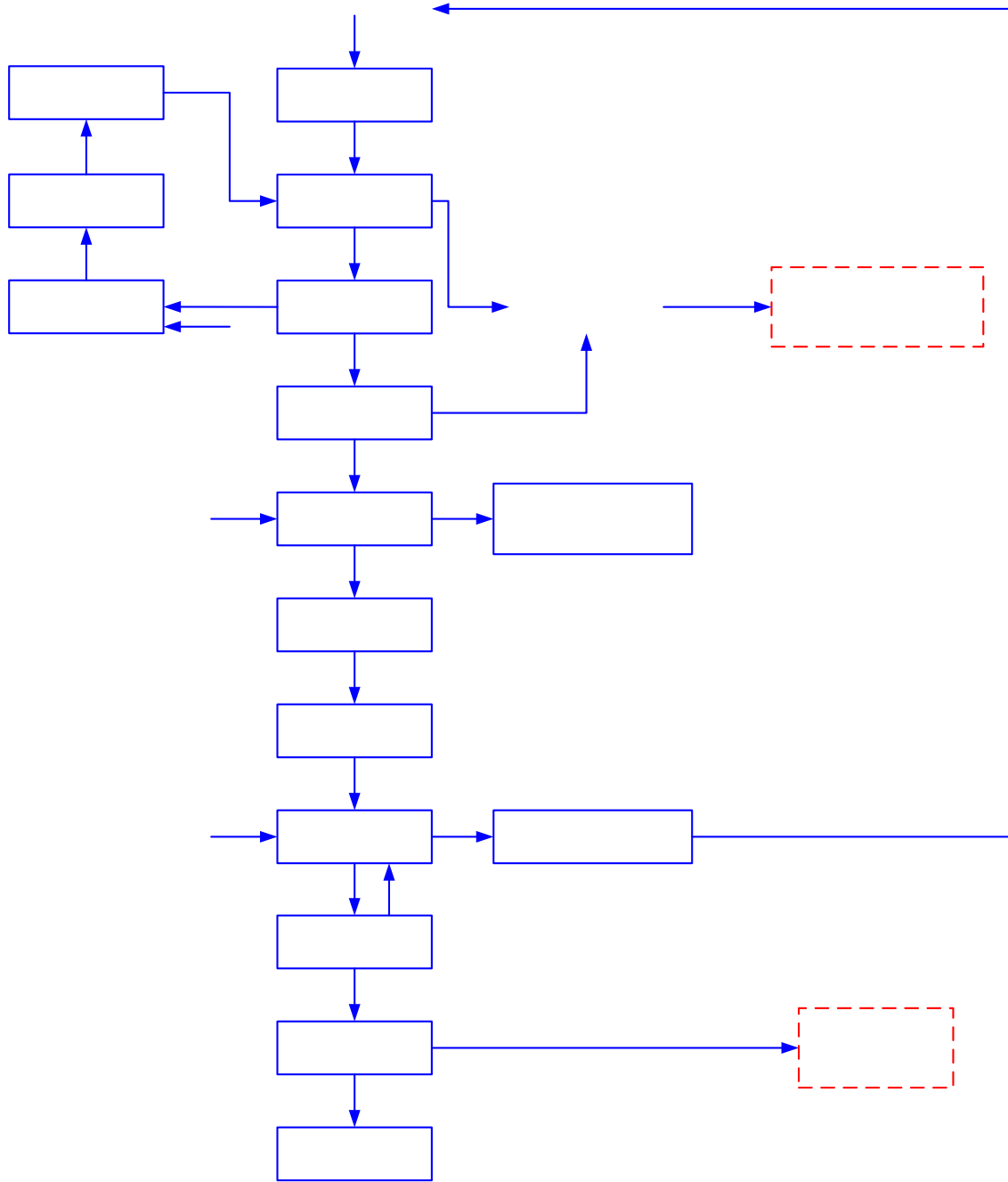
SO₃

98.3

SO₃

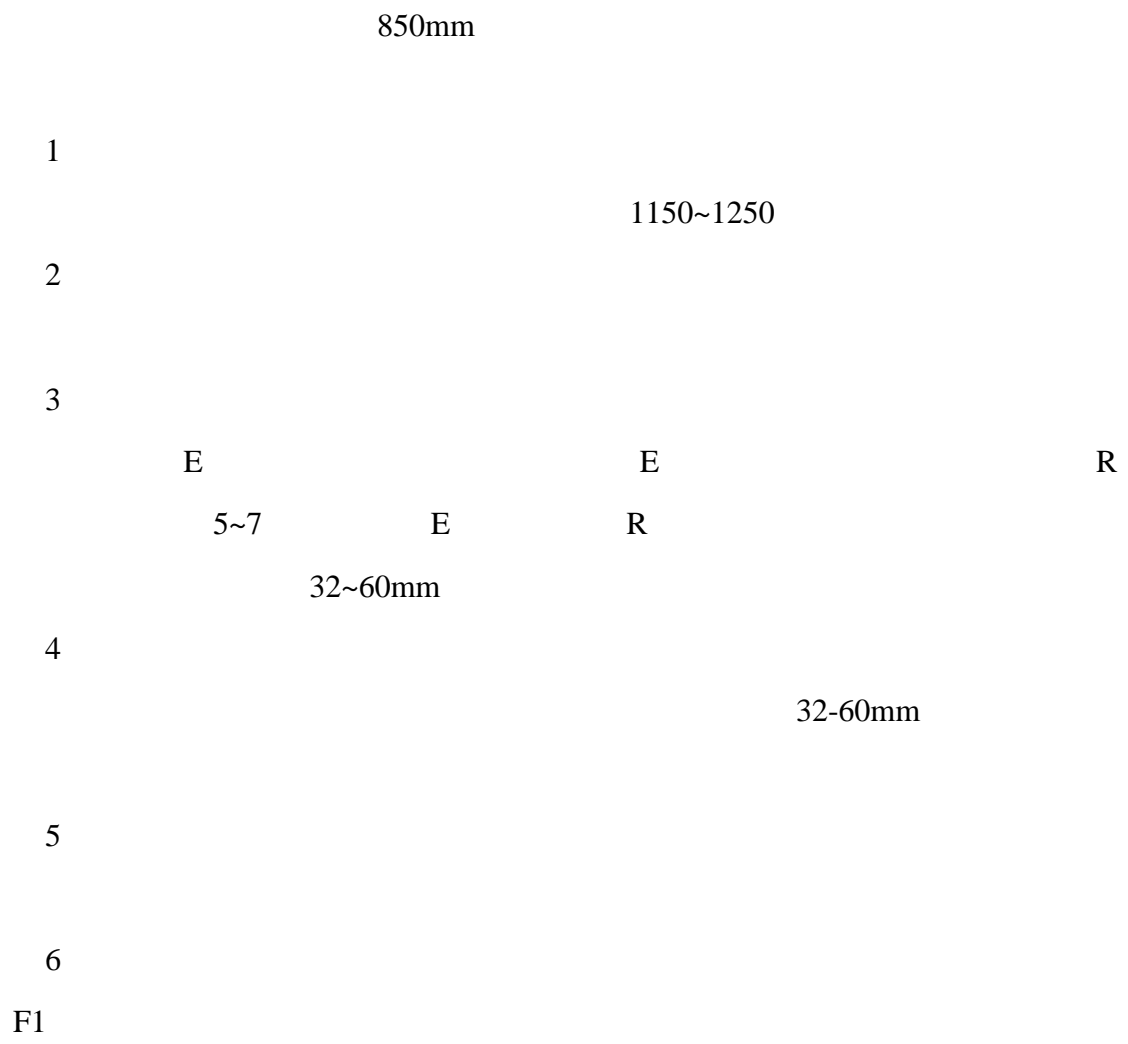
SO₂

2.3-2

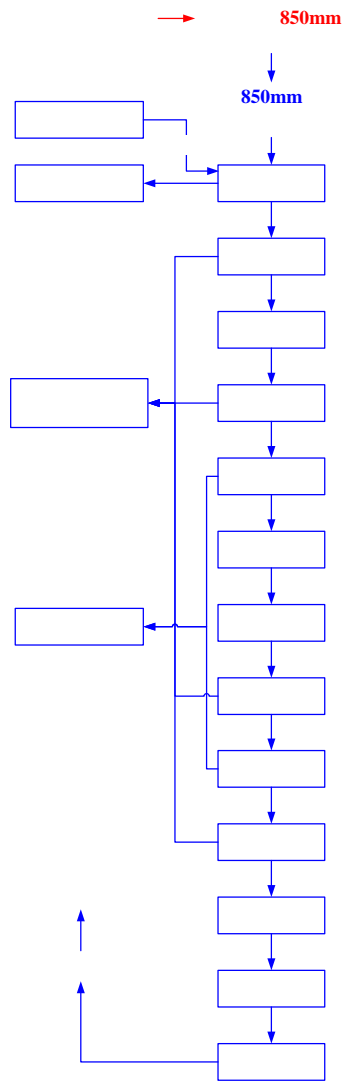


2.3-2

2.3.2.2



2.3-3



2.3-3

2.3.2.3

62 /

+ +

+

$$18 \quad 18 \quad / \quad + \quad 2.3-4$$

2.3-4

2.4

2.4.1

2.4.1

2.4.1

	1		HRM1700M		1		HRM1700M	1
	2		LY- -3200		1		JLPM64-4 M	1
	3		Q=5t Lk=7.5m H=16.5m		1		MDGV100-380 38t/h	1
	4		LS500		2	-	-	-
	1		B=1000 L=9.4m 5.0 40m 0.5~2r/min		1		B=800 L=9.4m	3



	3		60t Lk=22.5m H=38.6m		2		60t Lk=22.5m H=38.6m		3
	4	-	-	-	-				3
	5				2				3
	6		5t		2		10t		12

2.4.2

2.4.2

2.4.2

1.	1				2
	2			R	3
	3			1	1
	4			E	1
	5			R	1
	6				1
	7				1
	8			8	1
	9				1
	10				2
	11				1
	12			6	2
2.	1				6
	2				6
	3				6
	4	()		/	6
	5				6
	6				6
	7	()		/	6
	8				6
	9				15
	10				15
	11			+	15
	12				15
	13			+	15
	14				15
	15				15

16

	5				4
	6		+ +		1
	7				1
4.	1		~8000 mm 250~320	~9400 mm 550~700	1
	2			~50 m ³	1
	3			~6000Nm ³ /h	1
	4		mm	~800 mm ~4000 ~1800 mm ~5200mm	1
	5			~2000 mm ~12000 mm	1
	6			~1000 mm ~2000 mm	1
	7			~1000 mm ~1600 mm	1
	8			~2900 mm ~20000 mm	1
	9			450°C	1
	10			~90 m ³	2
	11			~90 m ³	2
	12			3.6m	1
5.	1				1
	2				1
	3				2
	4				1
					1
	5				1
					1
					1
	6				1
7				1	
8				1	
9			2	1	

2.5

2.5.1

2.5.1.1

1#

SO₂

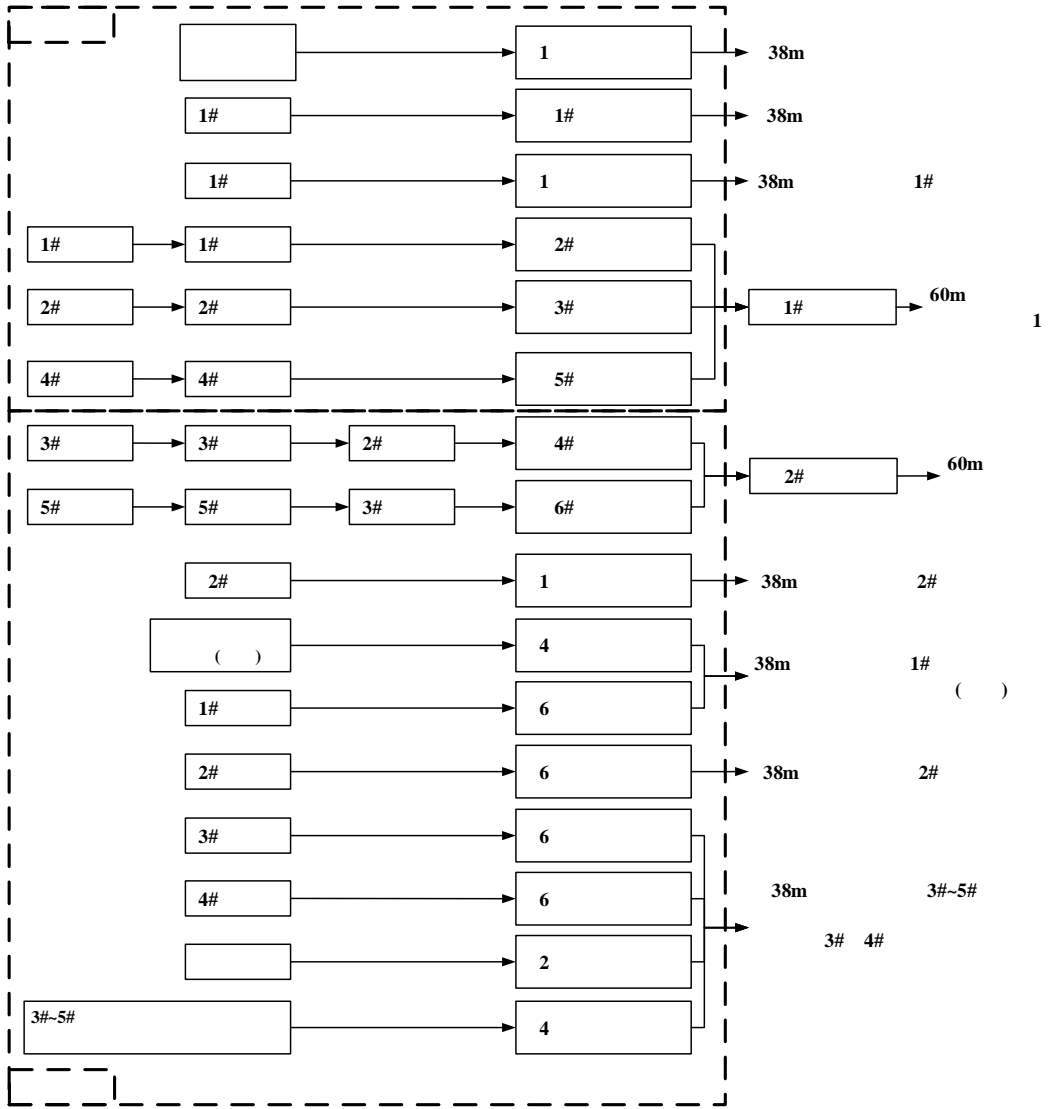
1#

1#

38m

1#

1#	1#	1	38m		
		1	38m		
	2#				
2#	2#	1	38m		
		1			
	1#	1#	1#	2#	
	2#	2#	2#	3#	
	4#	4#	4#	5#	
	3	1#	60m		
		2			
3#	3#		2#	2#	
	4#	5#	5#		
3#	3#	6#	2		
2#	60m				
1#					
1#	6		()	4	
	2	38m			
2#					
2#	6	38m			
3#	4#	5#		3#	4#
3#	4#	5#		4	
	3#	6	4#	6	
		2	4	38m	
			2.5-1		



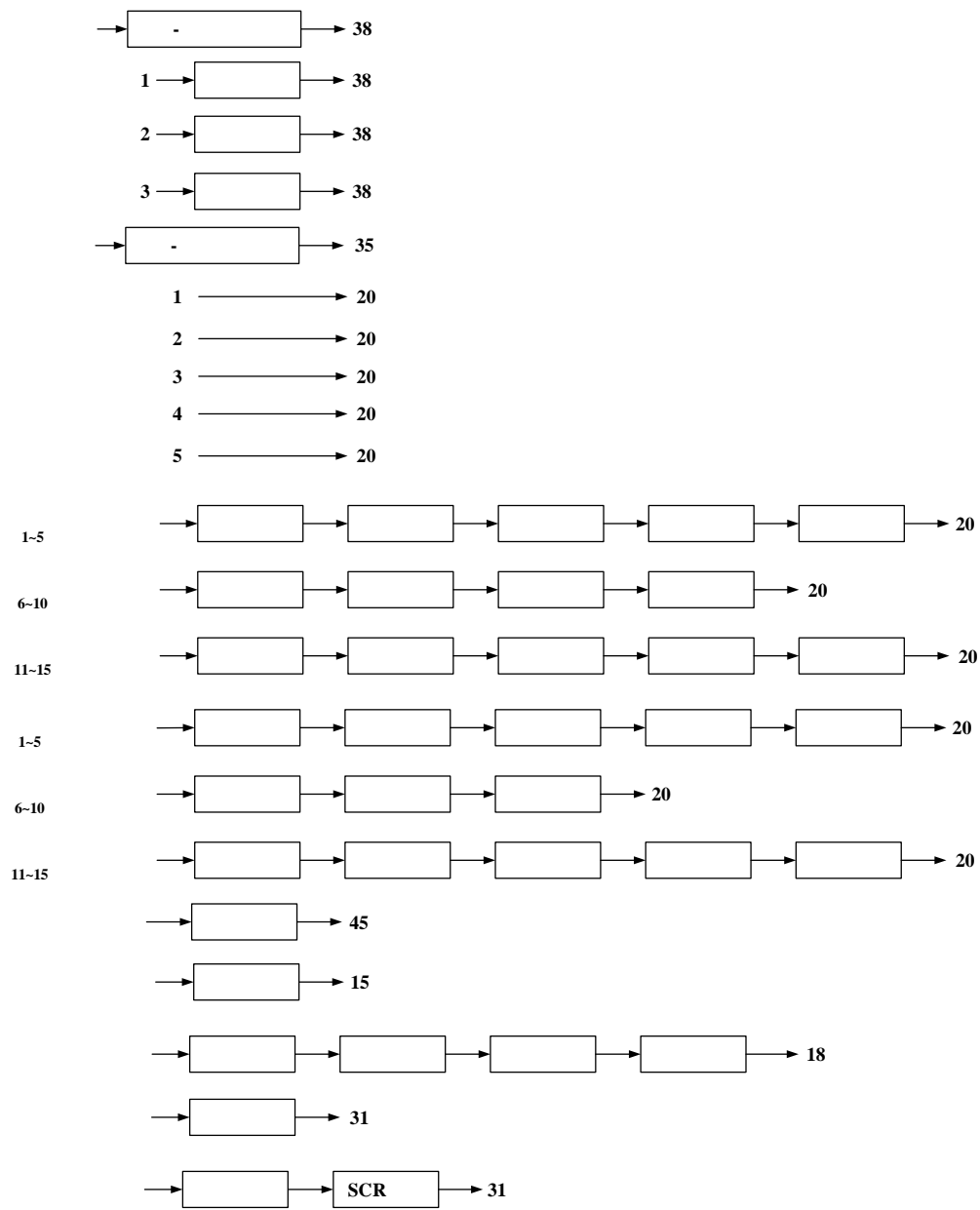
2.5-1

2.5.1

2.5.1

1			1	- 1 =2m H=38m	85%
2			3	H=38m	=0.8m
3			1	- 6	85%
					1

				=1.5m H=35m
4			5	1#~5# 1 =0.3m H=20m
5			3	15 5 1 Na ₂ S + + =0.8m H=20m
6			3	15 5 1 +Na ₂ S + =0.8m H=20m
7			1	+ =0.6m H=45m
8			1	1 H=15m Ø1750mm
9			1	+ Na ₂ S 1 H=18m Ø500mm
10			1	1 H=31m Ø365mm
11			1	+SCR 1 H=31m Ø800mm



2.5-2

2.5.1.2

[2019]922

[2019]922

[2019]35

2

10mg/m³

50mg/m³

200mg/m³

[2019]35

	[2019]35	2	10mg/m ³
50mg/m ³	200mg/m ³		

2.5.1.3

1

CMA

2022 1 8

[2019]922

[2019]35

2

10mg/m³

50mg/m³

200mg/m³

2.5.2

2022 1 8

2022 1									
	(m)							(GB 4915-2013) 1	
DA022	38			43817	45347	46778	45314	---	m ³ /h
		*		<20	<20	<20	<20	30	mg/m ³
				/	/	/	/	---	kg/h
				20.2	20.0	20.4	/	---	%
2# DA027	38			62316	64313	56233	60954	---	m ³ /h
		*		<20	<20	<20	<20	30	mg/m ³
				/	/	/	/	---	kg/h
				20.1	19.6	20.5	/	---	%
	(m)							(GB 25467-2010) 5	
3# DA023	38			281821	241783	236861	253488	---	m ³ /h
				ND	ND	ND	ND	---	mg/m ³
				ND	ND	ND	ND	400	mg/m ³
				/	/	/	/	---	kg/h
	(m)							(GB 28666-2012) 5	
2#	38			169676	145812	137750	151079	---	m ³ /h

DA025				<20	<20	<20	<20	50	mg/m ³	
				/	/	/	/	---	kg/h	
				8	ND	ND	4	---	mg/m ³	
				34	ND	ND	27	400(GB 25467-2010) 5	mg/m ³	
				1.4	/	/	0.55	---	kg/h	
	(m)							(GB 28666-2012) 5		
1# DA024	38			174551	184755	179688	179665	---	m ³ /h	
				*	<20	<20	<20	<20	50	mg/m ³
				/	/	/	/	---	kg/h	
				ND	ND	ND	ND	---	mg/m ³	
				ND	ND	ND	ND	400(GB 25467-2010) 5	mg/m ³	
/	/	/	/	---	kg/h					
	(m)							(GB 28666-2012) 5		
DA017	54			85418	82366	85828	84537	---	m ³ /h	
				33.4	25.9	24.5	27.9	30	mg/m ³	
				2.9	2.1	2.1	2.4	---	kg/h	
				17.9	17.9	17.9	/	---	%	
2022 2										
	(m)							(GB 25467-2010) 5		
DA020	38			49641	50531	52223	50798	---	m ³ /h	
				2.1×10 ⁻³	2.2×10 ⁻³	ND	1.6×10 ⁻³	---	mg/m ³	
				8.9×10 ⁻³	8.3×10 ⁻³	ND	6.1×10 ⁻³	4.3	mg/m ³	
				1.0×10 ⁻⁴	1.1×10 ⁻⁴	/	8.0×10 ⁻⁵	---	kg/h	
				ND	ND	ND	ND	4(GB 28666-2012) 5	mg/m ³	
/	/	/	/	---	kg/h					
	(m)							(GB 25467-2010) 5		
1# DA021	60			439231	452800	410862	434298	---	m ³ /h	
				0.224	0.230	0.0998	0.185	---	mg/m ³	
				0.725	0.731	0.311	0.586	4.3	mg/m ³	
				0.098	0.10	0.041	0.080	---	kg/h	
				0.049	0.059	0.043	0.050	4(GB 28666-2012) 5	mg/m ³	
0.022	0.027	0.018	0.022	---	kg/h					
	(m)									

								(GB 4915-2013) 1	
DA022	38			49406	51182	47202	49263	---	m ³ /h
		*		<20	<20	<20	<20	30	mg/m ³
				/	/	/	/	---	kg/h
				19.9	20.2	20.6	/	---	%
	(m)							(GB 25467-2010) 5	
3# 4# 5# DA023	38			339579	325500	316741	327273	---	m ³ /h
				ND	ND	ND	ND	---	mg/m ³
				ND	ND	ND	ND	400	mg/m ³
				/	/	/	/	---	kg/h
				367574 7.6×10 ⁻³	387895 4.9×10 ⁻³	369608 6.9×10 ⁻³	375026 6.5×10 ⁻³	---	m ³ /h

				ND	ND	ND	ND	400	mg/m ³
				/	/	/	/	---	kg/h
				264808	275445	254784	265012	---	m ³ /h
				4.5×10 ⁻³	2.6×10 ⁻³	4.5×10 ⁻³	3.9×10 ⁻³	---	mg/m ³
				0.556	0.0803	0.278	0.205	4.3	mg/m ³
				1.2×10 ⁻³	7.2×10 ⁻⁴	1.1×10 ⁻³	1.0×10 ⁻³	---	kg/h
				0.005	ND	0.004	ND	4(GB 28666-2012) 5	mg/m ³
				1.3×10 ⁻³	/	1.0×10 ⁻³	/	---	kg/h
2022 3									
	(m)							(GB 28666-2012) 5	
1# (DA024)	38			326599	327320	322850	325590		m ³ /h
		a		<20	<20	<20	<20	50	mg/m ³
				/	/	/	/		kg/h
				ND	ND	ND	ND		mg/m ³
				ND	ND	ND	ND	400 GB 25467-2010 5	mg/m ³
				/	/	/	/	kg/h	
2# (DA025)	38			212578	218872	222369	217940		m ³ /h
		a		<20	<20	<20	<20	50	mg/m ³
				/	/	/	/		kg/h
				4	ND	ND	ND		mg/m ³
				99	ND	ND	ND	400 GB 25467-2010 5	mg/m ³
				0.85	/	/	/	kg/h	
2# (DA027)	38			42329	42295	41308	41977		m ³ /h
		a		<20	<20	<20	<20	30(GB 4915-2013 1)	mg/m ³
				/	/	/	/		kg/h
				20.2	20.4	20.7			%
	(m)							(GB 25467-2010) 5	
3# 4# 5# (DA023)	38			333236	333236	336242	334238		m ³ /h
				ND	ND	ND	ND		mg/m ³
				ND	ND	ND	ND	400	mg/m ³
				/	/	/	/		kg/h
	(m)							(GB 28666-2012) 5	

(DA017)	45			51587	51589	51668	51615		m ³ /h
			a	<20	<20	<20	<20	30	mg/m ³
					/	/			kg/h
				10.9	10.9	11.8			%

(m)

(GB 28666-2012)

				/	/	/	/	---	kg/h	
				ND	ND	ND	ND	---	mg/m ³	
				ND	ND	ND	ND	400	mg/m ³	
				/	/	/	/	---	kg/h	
	(m)							(GB 25467-2010)	5	
2# (DA025)	38			199823	212234	202234	204764	---	m ³ /h	
		*		<20	<20	<20	<20	50(GB 28666-2012)	5	mg/m ³
				/	/	/	/	---	kg/h	
				4	ND	ND	ND	---	mg/m ³	
				99	ND	ND	ND	400	mg/m ³	
				0.80	/	/	/	---	kg/h	
2022 6										
	(m)							(GB 28666-2012)	5	
DA017	22			105888	90398	94382	96889	---	m ³ /h	
				25.8	28.7	19.4	24.6	30	mg/m ³	
				2.7	2.6	1.8	2.4	---	kg/h	
				10.8	12.1	11.2	/	---	%	
	(m)							(GB 25467-2010)	5	
DA020	38			60422	61809	61142	61124	---	m ³ /h	
				ND	ND	ND	ND	---	mg/m ³	
				ND	ND	ND	ND	4.3	mg/m ³	
				/	/	/	/	---	kg/h	

			445680	463502	462272	457151	---	m ³ /h
2#	60		0.142	0.0494	4.8×10 ⁻³	0.0654	---	
DA026								

				0.019	0.011	0.015	0.015	4(GB 28666-2012)	5	mg/m ³
				2.9×10 ⁻³	1.7×10 ⁻³	2.1×10 ⁻³	2.2×10 ⁻³	---		kg/h
2022 7										
	(m)							(GB 4915-2013)	1	
DA022	38			39210	38727	38931	38956	---		m ³ /h
		*		<20	<20	<20	<20	30		mg/m ³
				/	/	/	/	---		kg/h
				20.4	20.6	20.7	/	---		%
	(m)							(GB 28666-2012)	5	
DA017	54			42248	42534	43814	42865	---		m ³ /h
		*		<20	20.1	26.8	19.0	30		mg/m ³
				/	0.85	1.2	0.81	---		kg/h
				11.4	11.3	15.0	/	---		%
	(m)							(GB 25467-2010)	5	
3# 4# 5# DA023	38			328523	342920	331960	334468	---		m ³ /h
				ND	4	6	4	---		mg/m ³
				ND	99	62	62	400		mg/m ³
				/	1.4	2.0	1.3	---		kg/h
				0.0213	8.1×10 ⁻³	4.3×10 ⁻³	0.0112	---		mg/m ³
				0.292	0.500	0.0443	0.321	4.3		mg/m ³
				7.0×10 ⁻³	2.8×10 ⁻³	1.4×10 ⁻³	3.8×10 ⁻³	---		kg/h
				0.035	0.008	0.008	0.017	4(GB 28666-2012)	5	mg/m ³
		0.011	2.7×10 ⁻³	2.7×10 ⁻³	5.7×10 ⁻³	---		kg/h		
	(m)							(GB 25467-2010)	5	

				8.1×10^{-3}	1.1×10^{-3}	2.0×10^{-3}	3.7×10^{-3}	---	kg/h
				0.033	0.008	0.007	0.016	4(GB 28666-2012) 5	mg/m ³
				9.0×10^{-3}	2.1×10^{-3}	1.9×10^{-3}	4.3×10^{-3}	---	kg/h
	(m)							(GB 25467-2010) 5	
2# DA025	38			206289	206607	206766	206554	---	m ³ /h
		*		<20	<20	<20	<20	50(GB 28666-2012) 5	mg/m ³
				/	/	/	/	---	kg/h
				206289	206289	206607	206395	---	m ³ /h
				ND	ND	ND	ND	---	mg/m ³
				ND	ND	ND	ND	400	mg/m ³
				/	/	/	/	---	kg/h
				206750	207694	207820	207421	---	m ³ /h
				0.0135	5.0×10^{-3}	1.4×10^{-3}	6.6×10^{-3}	---	mg/m ³
				0.417	0.206	0.0288	0.205	4.3	mg/m ³
				2.8×10^{-3}	1.0×10^{-3}	2.9×10^{-4}	1.4×10^{-3}	---	kg/h
				0.010	0.007	ND	0.006	4(GB 28666-2012) 5	mg/m ³
		2.1×10^{-3}	1.5×10^{-3}	/	1.3×10^{-3}	---	kg/h		
2022 8									
	(m)							(GB 4915-2013) 1	
DA022	38			44181	43536	43369	43695	---	m ³ /h
		*		<20	<20	<20	<20	30	mg/m ³
				/	/	/	/	---	kg/h
				19.7	19.7	19.7	/	---	%
	(m)							(GB 28666-2012) 5	
DA017	52			140065	139768	139801	139878	---	m ³ /h
		*		<20	<20	<20	<20	30	mg/m ³
				/	/	/	/	---	kg/h

	(m)							(GB 25467-2010)	5	
1# DA024	38			245855	243789	242472	244039	---		m ³ /h
		*		<20	<20	<20	<20	50(GB 28666-2012)	5	mg/m ³
				/	/	/	/	---		kg/h
				245855	245855	245855	245855	---		m ³ /h
				ND	ND	ND	ND	---		mg/m ³
				ND	ND	ND	ND	400		mg/m ³
				/	/	/	/	---		kg/h
	(m)							(GB 25467-2010)	5	
2#	38			143693	142311	142557	142854	---		m ³ /h
		*		<20	<20	<20	<20	50(GB 28666-2012)	5	mg/m ³
				/	/	/	/	---		kg/h
				143693	143693	143693	143693	---		m ³ /h
				ND	ND	ND	ND	---		mg/m ³
				ND	ND	ND	ND	400		mg/m ³
				/	/	/	/	---		kg/h
	(m)							(GB 25467-2010)	5	
1# DA021	60			405056	396858	422242	408052	---		m ³ /h
				0.0172	0.0272	6.9×10 ⁻³	0.0171	---		mg/m ³
				0.0465	0.0768	0.0183	0.0463	4.3		mg/m ³
				7.0×10 ⁻³	0.011	2.9×10 ⁻³	7.0×10 ⁻³	---		kg/h
				0.005	0.008	ND	0.005	4(GB 28666-2012)	5	mg/m ³
				2.0×10 ⁻³	3.2×10 ⁻³	/	2.0×10 ⁻³	---		kg/h
	(m)							(GB 25467-2010)	5	
2# DA026	60			410709	398646	395773	401709	---		m ³ /h
				ND	ND	ND	ND	---		mg/m ³
				ND	ND	ND	ND	4.3		mg/m ³
				/	/	/	/	---		kg/h
				ND	ND	ND	ND	4(GB 28666-2012)	5	mg/m ³
				/	/	/	/	---		kg/h
	(m)							(GB 25467-2010)	5	
	38			87622	88262	87900	87928	---		m ³ /h

DA020			ND	ND	ND	ND	---	mg/m ³	
			ND	ND	ND	ND	4.3	mg/m ³	
			/	/	/	/	---	kg/h	
			ND	ND	ND	ND	4(GB 28666-2012)	5	mg/m ³
			/	/	/	/	---		kg/h

2022 7 2022 9

80%

2.5.3 a 2022 7-9

				(mg/m ³)	(m ³ /h)	(kg/h)	(mg/m ³)
2022.7.11	6-10			6.3	5.27 10 ³	0.033	10
	10-15			5.8	5.96 10 ³	0.035	10
	6-10			0.45	6.29 10 ³	2.8 10 ⁻³	6
				67	6.29 10 ³	0.42	150
	10-15			0.40	6.32 10 ³	2.6 10 ⁻³	6
				68	6.32 10 ³	0.43	150
				(mg/m ³)	(m ³ /h)	(kg/h)	(mg/m ³)
2022.8.8	6-10			3.6	5.65 10 ³	0.020	10
	10-15			3.2	6.56 10 ³	0.021	10
	6-10			0.37	6.70 10 ³	2.5 10 ⁻³	6
				66	6.70 10 ³		

5#		5.1	922	$4.7 \cdot 10^{-3}$	120
		71	922	0.065	550
		112	922	0.10	240

2

1#

2#

3# 4#

2022

2.5.4 a

1#

				SO ₂			NO _x			
	/ ()	()	()	/ ()	()	()	/ ()	()	()	
1	3.24	10.39	47.48	29.09	48.27	29.09	13.86	23.28	13.86	
	20.00	122.48	66.81	173.59	1055.17	173.59	15.71	110.90	15.71	
	15.76	95.66	57.24	132.28	800.26	132.28	14.91	87.86	14.91	
2	11.31	78.95	43.63	124.71	704.45	124.71	13.70	77.96	13.70	
	27.94	708.44	75.10	181.29	5275.5 0 1V					

		18.75	82.32	36.24	116.44	506.66	116.44	14.16	61.88	14.16
9		3.63	1.36	11.68	21.04	7.86	21.04	12.26	4.58	12.26
		21.44	90.77	46.24	133.55	683.91	133.55	15.03	69.46	15.03
		14.09	63.07	30.81	106.46	484.53	106.46	13.85	59.71	13.85
10		9.07	43.85	20.56	55.85	306.24	55.85	13.38	59.64	13.38
		18.92	90.28	53.59	123.41	585.77	123.41	16.83	85.70	16.83
		13.40	64.13	37.64	105.58	PHỞ BÊ FTV				

		26.75	130.62	80.59	123.99	590.01	123.99	2.12	11.37	6.35
5		14.96	46.94	46.16	102.85	322.66	102.85	0.76	2.05	2.14
		36.76	158.40	97.42	156.77	775.01	156.77	7.19	36.15	20.47
		24.05	89.73	67.23	137.08	509.19	137.08	2.10	8.19	5.82
6		18.59	70.24	49.58	103.37	403.44	103.37	4.50	13.42	11.26
		35.10	245.88	95.00	153.24	1144.22	153.24	4.98	40.29	15.07
		27.46	153.52	74.67	134.30	750.54	134.30	4.73	26.53	12.97
7		16.64	51.36	48.27	77.55	295.00	77.55	4.21	12.29	10.66
		41.64	235.14	108.20	144.30	870.50	144.30	4.75	32.33	22.51
		28.07	120.09	79.18	115.26	479.67	115.26	4.44	18.45	13.13
8		17.31	46.84	50.38	62.49	240.50	62.49	4.12	9.68	9.73
		43.23	286.73	112.35	148.97	831.67	148.97	4.56	31.73	16.88
		29.48	132.45	80.54	104.78	457.23	104.78	4.37	18.61	12.28
9		9.16	56.41	21.99	53.25	343.95	53.25	3.80	23.39	10.78
		43.56	398.12	106.21	132.49	1190.72	132.49	4.61	42.47	14.86
		24.71	195.94	69.65	100.54	785.35	100.54	4.40	34.15	12.80
10		9.61	76.22	27.29	72.81	616.99	72.81	3.48	17.42	9.07
		29.82	254.51	78.41	136.65	1345.87	136.65	3.99	44.61	13.00
		19.01	173.46	50.59	99.87	893.16	99.87	3.79	34.35	10.39
11		11.03	72.08	31.73	82.28	323.19	82.28	3.74	14.79	10.24
		33.79	247.79	94.17	151.82	1271.79	151.82	4.23	44.43	13.56
		19.56	133.73	55.85	117.28	820.16	117.28	4.01	28.18	11.63
12		13.19	60.15	37.29	74.65	328.54	74.65	4.02	14.27	10.25
		33.66	210.90	101.47	144.68	1182.46	144.68	4.25	49.28	14.05
		19.21	129.54	54.50	113.34	770.26	113.34	4.14	28.17	11.93

2.5.4 c

			SO ₂				NO _x			
	(/)	()	(/)	(/)	()	(/)	(/)	()	(/)	
1	4.75	5.63	19.42	72.40	18.21	72.40	4.49	1.27	17.50	
	51.13	77.65	172.14	118.93	214.23	118.93	7.16	14.23	90.10	

10		8.13	6.20	18.98	50.16	42.89	50.16	5.81	2.43	11.87
		34.81	57.34	83.09	122.56	194.84	122.56	6.90	11.81	26.40
		19.48	28.58	46.31	91.76	134.25	91.76	6.54	9.69	15.65
11		4.23	2.25	13.37	44.97	17.83	44.97	5.60	1.57	12.39
		50.85	96.56	157.38	93.93	162.12	93.93	7.20	13.98	52.73
		17.81	28.86	50.48	69.12	106.80	69.10	6.69	10.37	21.23
12		8.85	1.22	16.29	64.46	6.09	64.46	6.14	3.53	7.91
		47.38	97.96	151.10	156.74	309.73	156.74	7.40	14.93	45.89
		26.69	48.79	62.32	113.32	199.41	113.32	7.03	12.89	17.21
				850			240			200
[2019]35				50			200			10

2.5.4 d

3# 4#

		(/)	()	(/)
1		3.58	0.78	3.58
		6.60	33.01	6.58
		5.22	20.57	5.21
2		5.11	20.11	5.11
		9.47	37.18	9.47
		6.89	28.75	6.89
3		3.70	11.92	3.70
		10.12	35.20	10.12
		6.27	19.83	6.27
4		4.03	3.09	4.03
		6.27	13.79	6.27
		4.68	9.66	4.68
5		4.10	3.83	4.10
		6.48	6.16	6.48
		5.29	4.77	5.29
6		4.54	3.53	4.54

		5.66	5.01	5.66
		5.09	4.21	5.09
		4.90	4.18	4.90
		7.62	6.82	7.62
		6.21	5.47	
		3.78	0.40	3.78

7

8

2022

GB28665-2012

3

[2019]35

2.5.5 a 2022

			SO ₂		NO _x		m ³ /s	O ₂ () %		m ³ /h
	mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³				
2022 1	3.654	4.849	12.163	16.018	49.843	65.625	9.353	11.678	39.324	69260.525
2022 2	3.352	4.038	25.069	29.272	93.627	109.29	4.966	10.487	46.492	32104.362
2022 3	3.374	3.92	23.074	26.434	107.146	124.073	5	10.265	46.486	46580.38
2022 4	3.234	4.506	16.385	22.526	90.398	125.411	4.954	11.905	47.099	49516.816
2022 5	3.309	4.662	19.165	26.767	89.7	125.658	9.256	11.982	46.004	78709.445
2022 6	4.131	4.817	17.962	20.434	108.51	126.04	10.841	9.721	43.168	93941.463
2022 7	4.503	5.556	25.309	30.491	86.503	104.542	7.086	9.388	43.551	56175.811
2022 8	4.396	4.587	22.606	23.738	76.4	77.187	5.048	7.883	42.936	44830.981
2022 9	4.193	4.967	8.866	9.992	31.757	30.573	6.955	7.979	38.527	62331.232
2022 10	4.656	4.551	22.128	20.313	44.405	41.534	13.608	8.103	44.906	127938.041
2022 11	2.921	2.368	28.638	22.63	73.378	57.894	12.712	5.826	44.692	123654.361
2022 12	2.499	1.996	16.761	12.965	72.318	56.536	13.761	5.833	39.26	138470.406
		4.23		21.80		87.03				
GB28665-2012 3	/	15	/	150	/	300				
[2019]35		10		50		200				

2.5.5 b 2022

			SO ₂		NO _x		m ³ /s	O ₂ () %		m ³ /h
	mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³	mg/m ³				
2022 1	4.832	6.116	29.596	65.087	93.976	90.387	13.65	6.927	51.864	83796.967
2022 2	6.043	6.58	29.526	31.138	73.256	77.668	13.642	8.23	60.12	82383.149
2022 3	5.413	6.242	30.462	34.013	65.381	76.244	13.69	8.622	57.521	114160.549
2022 4	3.522	3.791	39.319	41.564	63.833	69.186	13.71	8.246	59.724	117333.992
2022 5	3.662	3.7	37.455	37.203	51.387	52.385	13.718	6.959	60.303	107738.356
2022 6	4.266	4.541	35.004	36.329	59.078	66.121	14.063	8.108	54.941	123086.11
2022 7	3.079	3.139	26.091	25.839	57.232	57.767	14.272	8.302	51.859	131717.711
2022 8	2.101	2.099	31.639	31.273	45.03	44.758	14.855	7.766	55.114	120802.587
2022 9	2.259	2.455	30.037	33.314	56.267	59.358	14.743	8.16	52.783	106804.596
2022 10	2.344	2.011	27.957	24.047	48.51	42.361	14.921	6.514	50.989	145904.5
2022 11	2.403	2.094	30.198	26.285	28.324	24.661	14.563	6.991	53.806	136989.875
2022 12	4.69	4.008	29.276	25.026	30.34	25.914	14.492	7.02	51.687	135385.943
		3.90		34.26		57.23				
GB28665-2012 3	/	15	/	150	/	300				
[2019]35		10		50		200				

0.395mg/m³

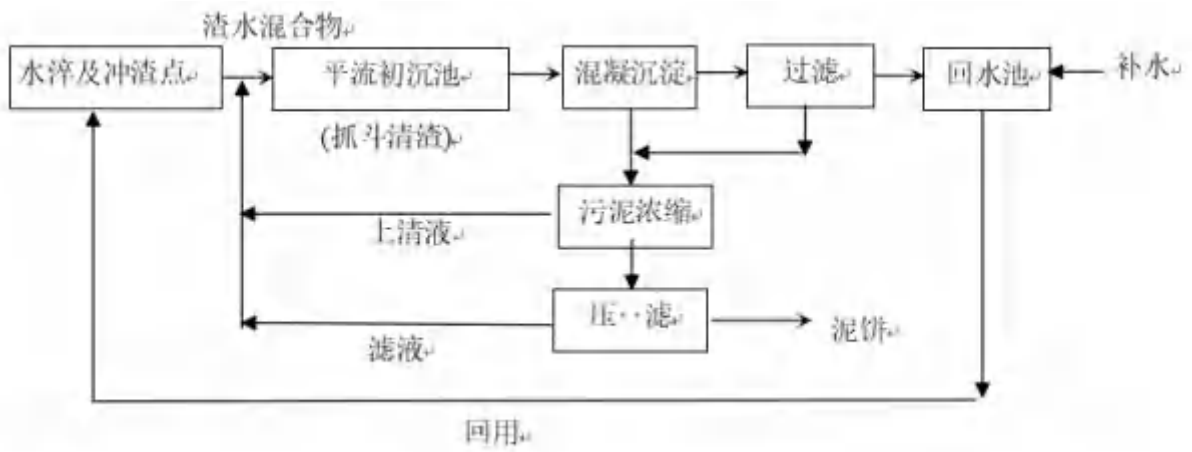
GB28666-2012

7

1.0mg/m³

2.5.2

2.5.2.1



2.5-3

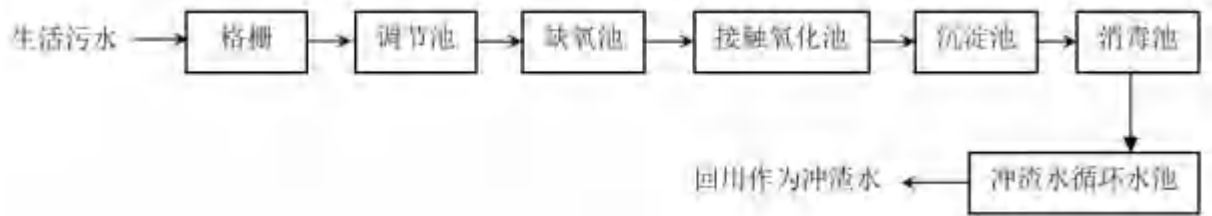
9.0~9.5

pH

TMT

pH

GB25467-2010



2.5-4

+ +

BOD₅ COD_{Cr}

SS

SS

+

GB28666-2012

2

GB25467-2010

2

1

1

60t/h

GB13456-2012

2

2

1~2

3~4

5~6

1

3

130t/h

GB13456-2012 2

3

1~10 11~15 1 2 1~10
100t/h 11~15 50t/h

GB13456-2012 2

4

1 1
2 1t/h 12t/

GB26132-2010 2

GB25467-2010 2

5

1 15t/d 1~10

1 20t/d

GB8978-1996 4

6

10 0.5t

5t/d

2.5.2.2

2.5.7

2.5.6

		t/d			
W1		2137	CODcr SS		
W2		13850	pH		
W3		45438	CODcr SS		

2.5.3

2.5.3.1

2.5.8

2.5.8

		FeO Ni SiO ₂ MgO	450000		
			15127		
		CaSO ₃ CaSO ₄ CaCO ₃	1894		
		Ni Cr Co	25		
		Ni Cr Co	300		

	Fe Ni	10000	
		14.5	

2.5.9

				t/a					
		HW08	900-249-08	2				T I	
		HW21	314-002-21	15127				T	
		HW08	900-249-08	2				T I	
		HW21	314-002-21	150223				T	
		HW11	451-001-11 451-003-11	4205		/		T	
		HW08	900-210-08	4.3				T I	
		HW17	336-064-17	12000			Fe Ni Cr	T/C	
SCR		HW50	772-007-50	10m ³ /5			V ₂ O ₅ TiO ₂	T	
		HW18	772-003-18	2000			FeO Fe ₂ O ₃ Cr	/	
		HW08	900-249-08	3.1				T I	

2.5.3.2

3

(GB18599-2020)

6

1#~3#

GB18597-2001

2.5.10

2.5-5

2.5.10

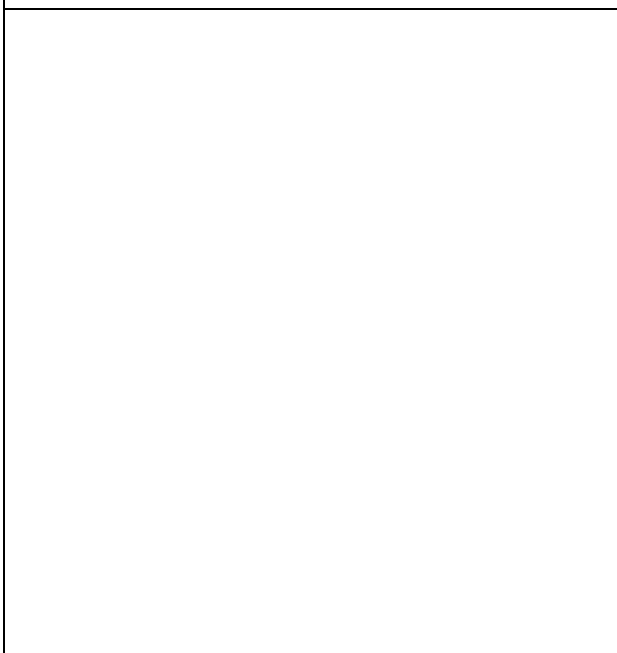
	/			
	72	14	5	5040
	63	13	5	4095
		2000		8000
		338		950
		1400		4000
		650		1500
1		250		180
2		160		100
3		250		180

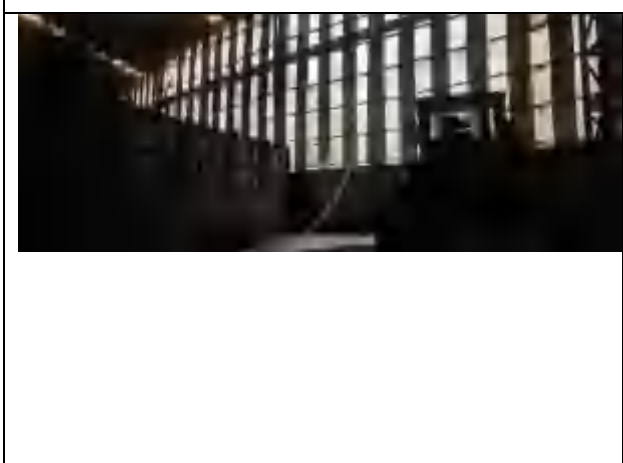
GB18597-2023

GB18597-2023

HJ1276-2022

HJ1276-2022





2.5-5

2.5.4

2.5.4.1

2.5.4.2

2022 9 28

55dB~68dB

53dB~58dB

11# 14# 15#

GB12348-2008

3

7# 11# 14# 15#

GB12348-2008

3

2.6

2022

2.6.1

2.6.1

2.6.2

2.6.2

2.6.3

2.6.3

(m ³ /a)	215.07	24.36	239.43
t/a	481.71	22.294	504.004
SO ₂ t/a	370.74	112.634	483.374
NOx t/a	782.85	141.098	923.948
t/a	0	5.048	5.048
t/a	0	1.635	1.635
t/a	9.739	0.087	9.826
kg/a	772.42	0	772.42
kg/a	250	0	250
kg/a	76.16	0	76.16

2.6.1

		m ³ /h	h																					
				mg/m ³	kg/h	t/a	mg/m ³	kg/h	t/a	mg/m ³	kg/h	t/a	mg/m ³	kg/h	t/a	³	g/h	kg/a	³	g/h	kg/a	³	g/h	kg/a
		72177	7200	29.19	2.11	15.17	64.76	4.67	33.65	112.54	8.12	58.48	0.28	0.03	0.039	8.7	0.63	4.52	6	0.43	3.12	2.70	0.30	1.44
1#		63324	7200	30	1.9	13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		13284	7200	30	0.4	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2#		57493	7200	30	1.7	12.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	390422	7200	6.35	2.48	17.85	38.36	14.98	107.83	134.58	52.54	378.31	0.51	0.2	1.44	72	28.11	202.39	25	9.76	70.28	2.20	1.30	9.35
	2	311600	7200	16.2	5.04	36.29	62.34	19.43	139.86	153.8	47.92	345.05	0.15	0.1	0.72	54	36	259.3	19	12.7	91.2	1.70	1.13	8.16
1#	()	722466	7200	16	11.6	83.3	5	3.1	22.5	0.2	0.1	1	0.4	0.29	2.08	40	28.9	208.1	4	3	21.3	3.40	2.46	17.69
	2#	334755	7200	13	4.4	31.3	10	3.3	24.1	-	-	-	0.5	0.17	1.21	1.6	0.5	3.9	4	1.3	9.5	3.60	1.21	8.68
	3#~5#	1190000	7200	31.34	37.3	268.8	5	6	42.8	-	-	-	0.5	0.6	4.25	11	13.1	94.2	6.39	7.6	54.6	3.60	4.28	30.84
	3# 4#					481.71			370.74			782.85			9.739			772.42			250			76.16

2.6.2

					(h)							
		(m)	(m)	()				m ³ /h	mg/m ³	kg/h	t/a	
		38	2	60	7200		100000		7.5	0.75	5.4	
									75	75	54	
								NO _x	100	10	72	
	1	38	0.8	45	7200		42853		11.3	0.5	3.501	
									0.005	0.0002	0.002	
	2	38	0.8	45	7200		42853		11.3	0.486	3.501	
									0.005	0.0002	0.002	
	3	38	0.8	50	7200		17834		8.323	0.357	2.568	
									0.005	0.0001	0.001	
		35	1.5	60	6000		70000		6	0.42	2.52	
									40.2	2.814	16.884	
								NO _x	150	10.5	63	
										0.065	0.00455	0.0273
	1	20	0.3	200	7200		6241		18.3	0.114	0.821	
									34.5	0.215	1.55	
								NO _x	23.6	0.147	1.06	
									0.015	0.0001	0.001	
2	20	0.3	200	7200								

									0.015	0	0.001
									11.8	0.069	0.494
		5	20	0.3	200	7200			18.5	0.107	0.774
							NO _x	5807	10	0.058	

2.6.3

2.5.6

2.5.7

2.6.4

2.5.8

2.6.5

SO₂ NO_x

2.6.5

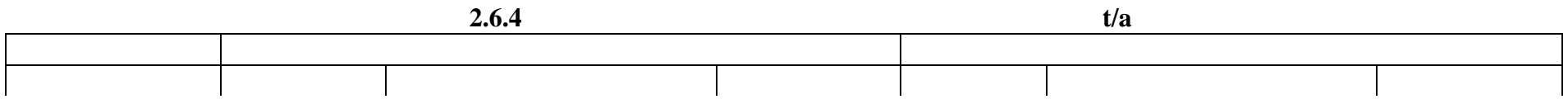
2.6.4

2.6.5

2.6.4

2.6.5

SO₂ NO_x



2.7

2.7.1

1		
2	GB9078-1996	
3		
4	GB12348-2008	<p>2022 9 28 11# 14# 15# GB12348-2008 3 7# 11# 14# 15# GB12348-2008 3</p> <p>7.2.4</p>
5		
6		
7		
8		
9	/	[2007]17 105.9
10		

11	1000m	233	2017 32 234

2.7.2

	38m		
			300t/d
	1000m	32	2017 234 233
			300t/d

		32	2017
		234	233

2.7.3

1			
	<p style="text-align: center;">SO₂</p> <p>(GB25467-2010) NO_x</p> <p>(GB16297-1996)</p>		
2	<p style="text-align: center;">1 60m</p> <p style="text-align: center;">38</p>		
	<p style="text-align: center;">1</p>	<p style="text-align: right;">2017 32</p> <p style="text-align: right;">233 234</p>	
3	1700m ³	15000m ³	

	(GB25467-2010) (GB8978-1996) 4	(GB28666-2012) 2 (GB25467-2010) 2
4	(GBI2348-2008) 3	2022 9 28 11# 14# 15# GB12348-2008 3 7# 11# 14# 15# GB12348-2008 3 7.2.4
5	(GBI8599-2001) (GB18597-2001)	
6	SO ₂ NO ₂	SO ₂ NO ₂
7	SO ₂ 87.5 / NO _x 536 / 150.9 / ([2013]19) SO ₂ NO _x	SO ₂ NO _x

8		
9	30	

2.7.4

38	3	45
38	2	38
GB28665-2012		(GB28665-2012)
6	35	6
Na ₂ S	5	38
6	20	20
2	+ +	+ + Na ₂ S
	20	20
GB16297-1996	GB28665-2012	(GB28665-2012)
2		2
		(GB16297-1996)
		2
		45
	45	
GB26132-2010	5	GB26132-2010
		5
		6000t/h
	1 60t/h	
GB13456-2012	2	(GB13456-2012)
		2
3	130 t/h	3
		150t/h

850 m ³	700 m ³	850m ³ 5800m ³ 700m ³
2700m ³		15000m ³
(GB28666-2012)	(GB25467-2010)	(GB28666-2012) 2 (GB25467-2010) 2
	pH	pH
		150 300

GB18597-2001		
320t/d		

2.8

2.8.1

2.8.1

2.8.1

1		
2		GB18352.6-2016 GB17691-2018
3		
4		
5		
6		

[2019]7 2025

7

[2019]7

2

2	HJ1276-2022	HJ1276-2022
1		

	2	2 28 m ³ /h 5 8 3 40 m ³ /h	2023 5 -2023 12
		HJ 75 GB 16157 4 2	
[2019]35	2	HJ 75 GB 16157 2m 1m 1.2m 10cm 220V 3 16A	2023 12

2.8.3

1)	40%	1 5m	
2		2	
3		3	
4		4	2025 12
5		5	
6		6	
7	6 1	7 6%	
		TSP	
		8	
		9	

3

3.1

3.1.1

1

2

3

4

5

8500m²

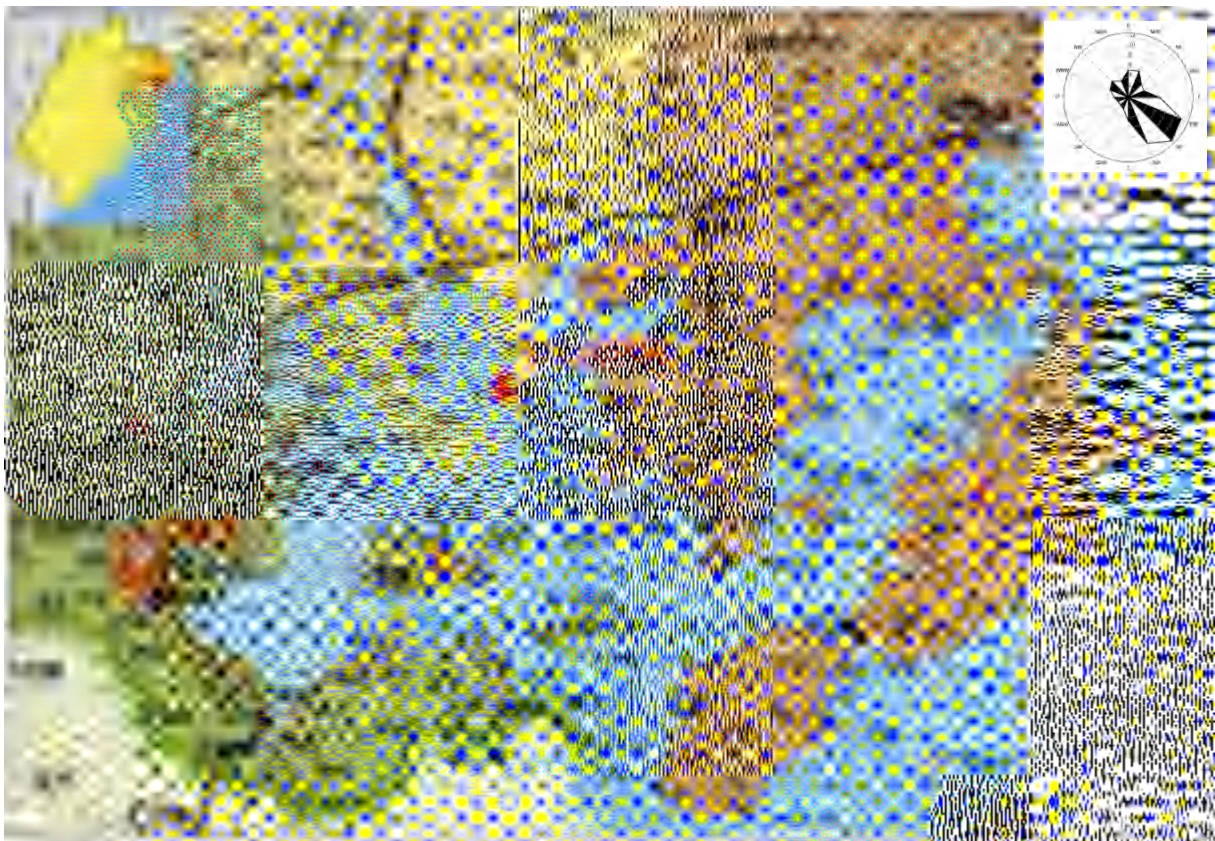
6

18000

7

8

330



3.1-1

3.1.2

3.1.2.1

20
 10 30 30
 50
 30
 35 15
3.1.2.2
 50 35 15

3.1.1

3.1.1

10%	0.5%	30	30
8%	18%	50	35
6%	12%	0	15
		50	50

3.1.2.3

400-550MPa

2

3.1.3

1

15

VOD

LF

2

1 75 LF 1 75

VOD

3.1.2

3.1.2

		10		
1		1 1 25t/h	1 25t/h 1	/

2

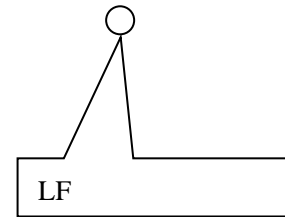
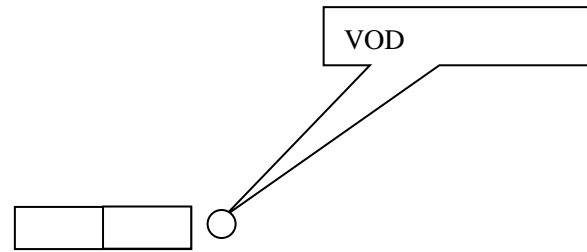
2			<p>1</p> <p>2 3 4</p>	<p>1</p> <p>2 3</p>	<p>VOD</p> <p>1 43</p> <p>LF</p> <p>1 43</p> <p>3# 4# 5#</p>
			-		/
3					VOD LF
4			<p>1</p> <p>2 3</p>	<p>1</p> <p>2 3 4</p> <p>5</p> <p>6 7 8</p>	VOD LF
5			-		/

3.1.4

1 75 LF 1 75 VOD



3.1-2



3.1-3

3.1.5

3.1.5.1

3.1.3

				t/a	t/a	t/a
1			1.86%	2410700	2410700	0
		Fe Ni Cr		56836	56836	0
2			0.3%	105800	105800	0
			/	2180	3270	1090
			0.33%	246000	246000	0
			0#	1545	1545	0
			/	83	83	0
			/	175000	175000	0
				8945	11280	2335
			/	95404	124480	29076
			/	177100	159100	-18000
			/	35000	24600	-10400
			/	6575	6635	60
			/	4132 m ³ /h	4220 m ³ /h	88 m ³ /h
			/	4035 m ³ /h	4035 m ³ /h	0
		/	281 m ³ /h	286 m ³ /h	5 m ³ /h	

3.1.5.2

1

3.1.4

3.1.4

	Ni	Fe	Cr	C	Si	S	P
%	10	80	0.5	1	3	0.3	3

2

3.1.5

		%	59.5
		%	0.09
		%	0.5
		%	0.02
			35
			ND
			ND
			0.05

		%	ND	ND
		%	ND	ND
		%	29	ND
		%	2.5	50
		%	ND	ND
		%	3	9.45
		%	5.39	5.5

3

10000Nm³/h

8000Nm³/h

300Nm³/h

3.1.5.3

3.1.7

3.1.7

		tce/a		
	26250 10 ⁴ kWh	32261.25	0.1229kgce/kwh	
		76398	0.29104kgce/kwh	
	3750t	2678.63	0.7143kgce/kg	
	7.5 10 ⁴ GJ	2559	34.12kgce/GJ	
	-40000t	-3820	0.0955kgce/kg	
	tce/a	33678.88		
		77815.63		

50

50

3.1.8

3.1.8

	2021	tce	
		37841.84	
		78578.94	
		43901.3	
kgce/t)		87.8	

77815.63

=77815.63

-78578.94=-763.31

-763.31

3.1.6

8

330

3.1.7

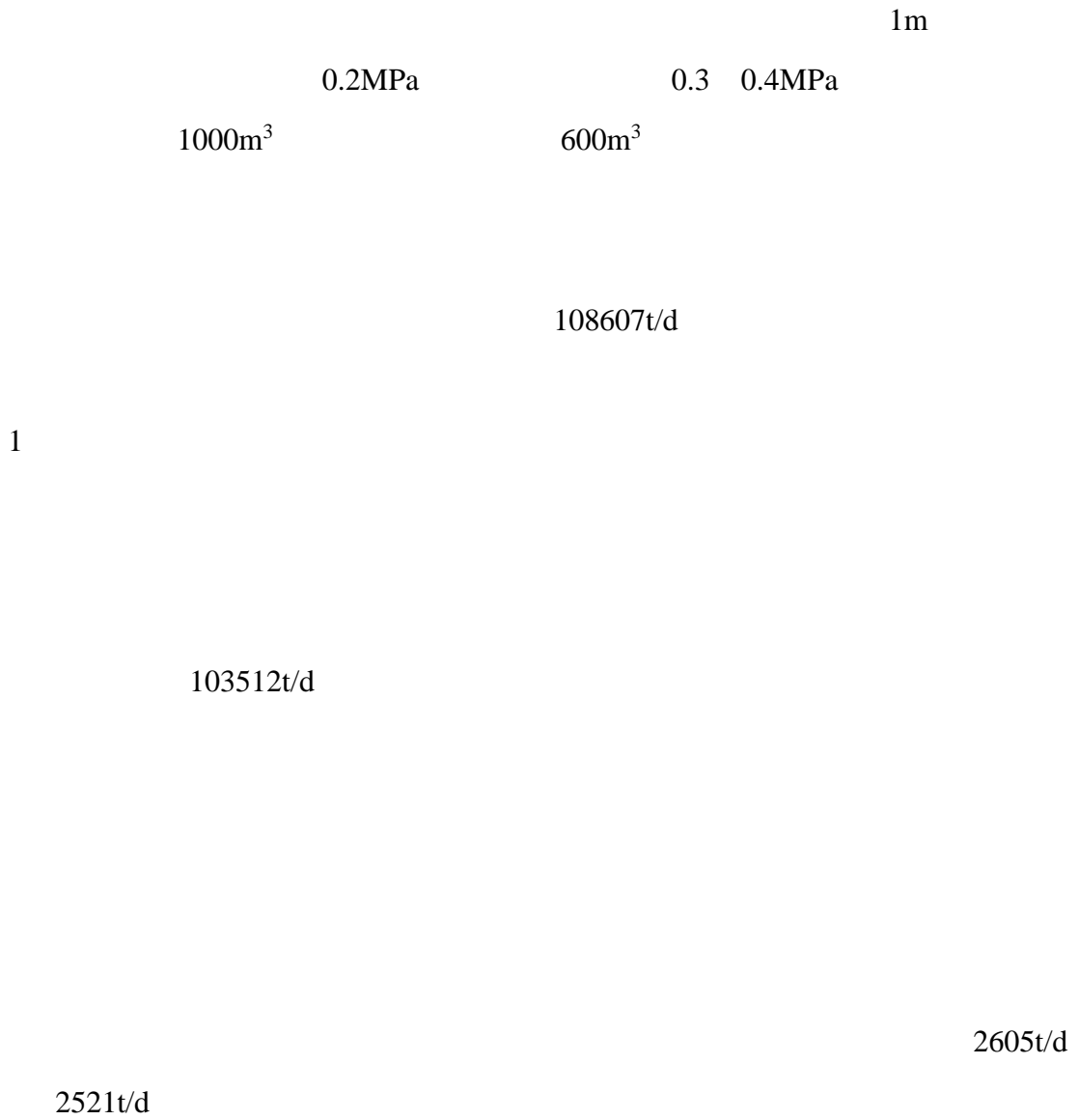
3.1.9

1		10 ⁴ t/a	50	
		10 ⁴ t/a	35	
		10 ⁴ t/a	15	
2		d	330	
3			0	
4				
			2410700	
			56836	
			124480	
			159100	
			24600	
			246000	
			105800	
			175000	
5				
		10 ⁴ kWh/a	26250	
		10 ⁴ GJ/a	7.5	
		10 ⁴ Nm ³ /a	3038.4	
		10		

			5.7	
	%		13.23	
	I=10%		3922.4	
			6.7	
	(%)		17.72	

3.1.8

3.1.8.1



41700t/d

2000t/h

2

4712t/d

3

2710t/d

96t/d

3.1.8.2

6.5-1

2414t/d

3.2

3.2.1

3.2.1.1

RKEF

RK

EF

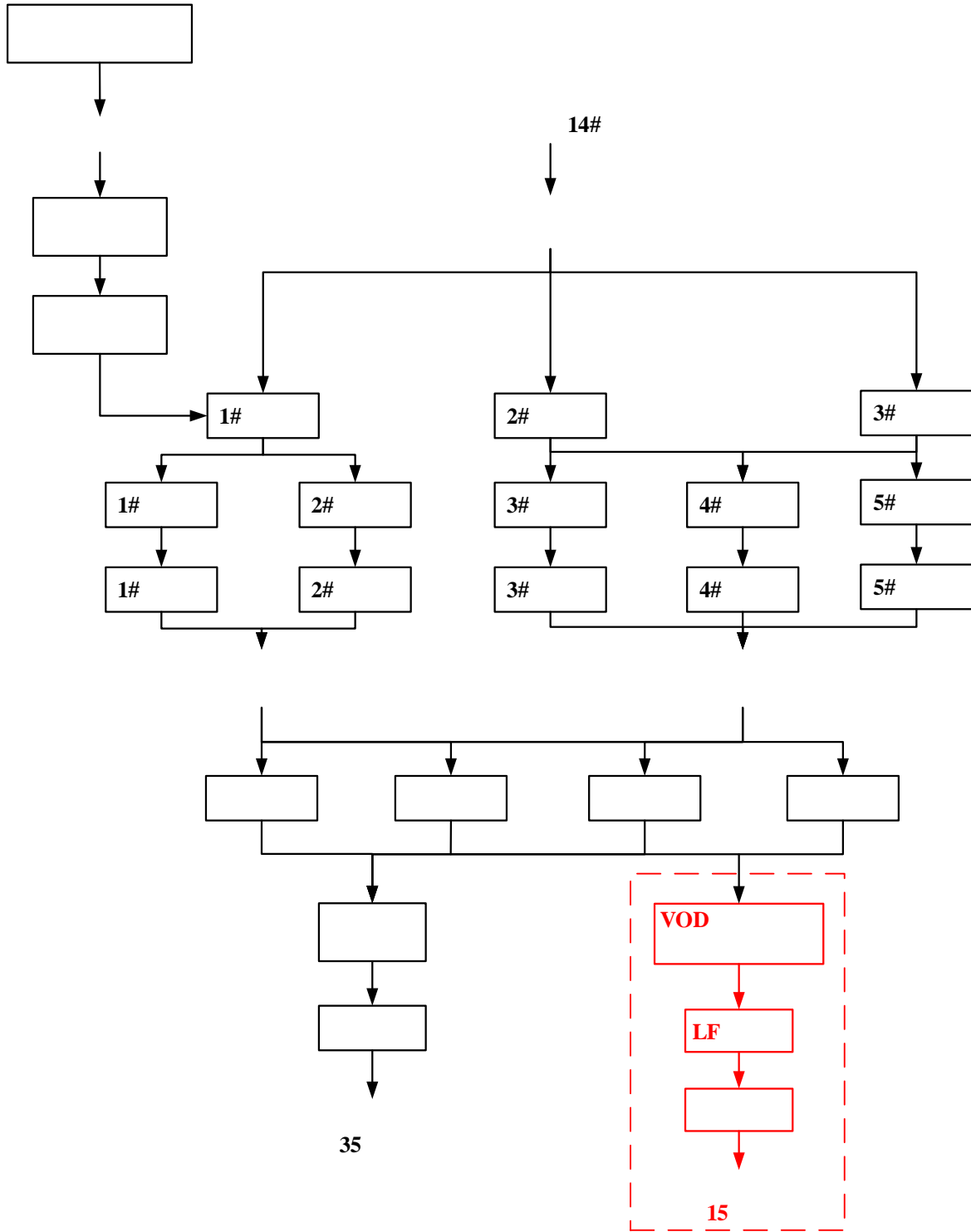
R10

15

VOD

LF

3.3-1



3.2-1

3.2.1.2

1
75t 4 75t 1 R10
1 75 LF 1 75 VOD

R10
VOD LF

2
 VOD
 1 43 LF
 1 43

3# 4# 5#
3# 4#
3

3.2.1.3
VOD
VOD
VOD
H N

VOD

VOD

VOD

20kPa

8kPa

VOD

LF

3.2.1 75 VOD

1	VOD	t	75	
2	VOD		1	
4		t	75	80t
5		10 ⁴ t	15	
6		m/min	2~12	
7				
		MPa	12	
8				
		MPa	35	
9				
		mm	3000	
		m/min	1.5~2.0	
		MPa		
	Max	m ³ /h	1000~2000	
		MPa		
10				
			4	
		kg/h	600	67kPa 20
		kg/h	4000	8kPa
		Pa		
			13	
			25	
11				
		MPa	0.6~0.8	
		L/min	50~300	

VOD

3.2.2 75 LF

1				
		t	75	
		t	80	
		mm	500	75
2	LF			
		MW	15+20%	
		kV	35	
3	LF			
		mm	500	
		Pa	20 50	
4				
		mm	400	UHP
		mm	750	
		mm	2800	
		m/min	5/6	/
		m/min	4/5	/
		/min	4	
5				
		m	0.6+j2.4	
		%	3.5	
6				
		m/min	2-20	
		mm	10mm	
		t	200	
7				
		MPa	12	
			-	
8				
		MPa	0.2 0.8	1.6
		NL min	50 400	
9				
		MPa	0.4-0.5	
		Nm ³ h	20	
10				
		MPa	0.5	
			<35	
			<55	
		m h	350	

1 R10m

M-EMS

3.2.3

1				
2			1 4 4	
3		m	10	
4				
5		mm	1300	
6		mm	150 150`220 220	
7		m	9~12	
8		m/min	3.3	
9		m/min	2.1	
10		t	25	
11				
12				
13				
14		m/min	0.6 6	
15				
16				
17		m/min	30	

3.2.1.4

3.2.4

3.2.4

	75t	7200h	50	7200h	35	
	75t	7200h		7200h		
	75t	7200h		7200h		

	75t	7200h		7200h		
	75t	7200h		5040h		75t 7200h 5040h
	R10	7200h		7200h		1.25m/min 0.88m/min
	VOD	/		4320h	15	
	LF			4320h		
				1290h		

3.2.1.5

1

30

2

15

3.2.2.1

3.2.1.6

1

VOD

LF

75t

2

VOD

3

VOD

4

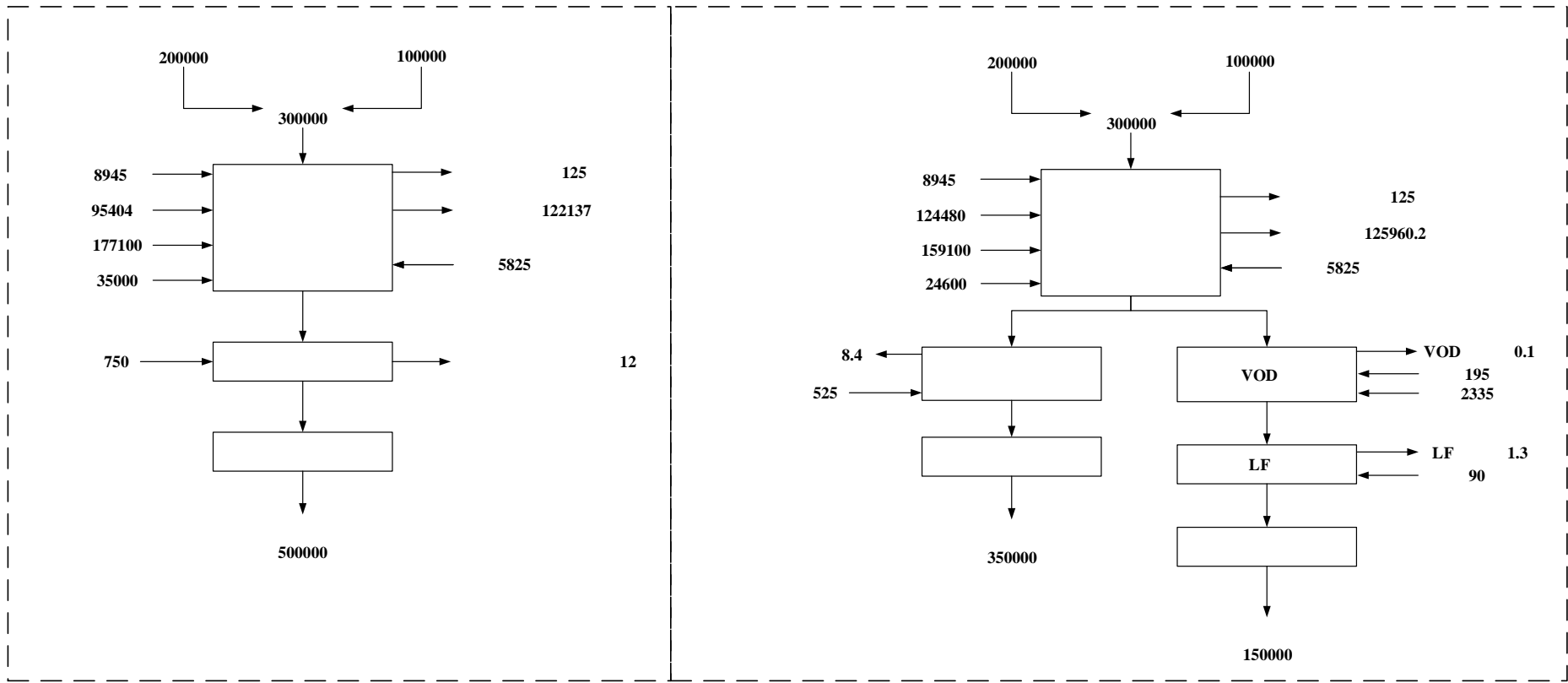
3.2.2

3.2.2.1

3.2.5 3.2-2

3.2.5

t/a		t/a	
	300000		500000
	8945		137
	95404		122137
	177100		
	35000		
	6575		
	628100		622274
	300000		350000
	11280		150000
	124480		134.8
	159100		125960.2
	24600		
	6635		
	626095		626095



3.2-2

3.2.2.2

3.2.6 3.2-3

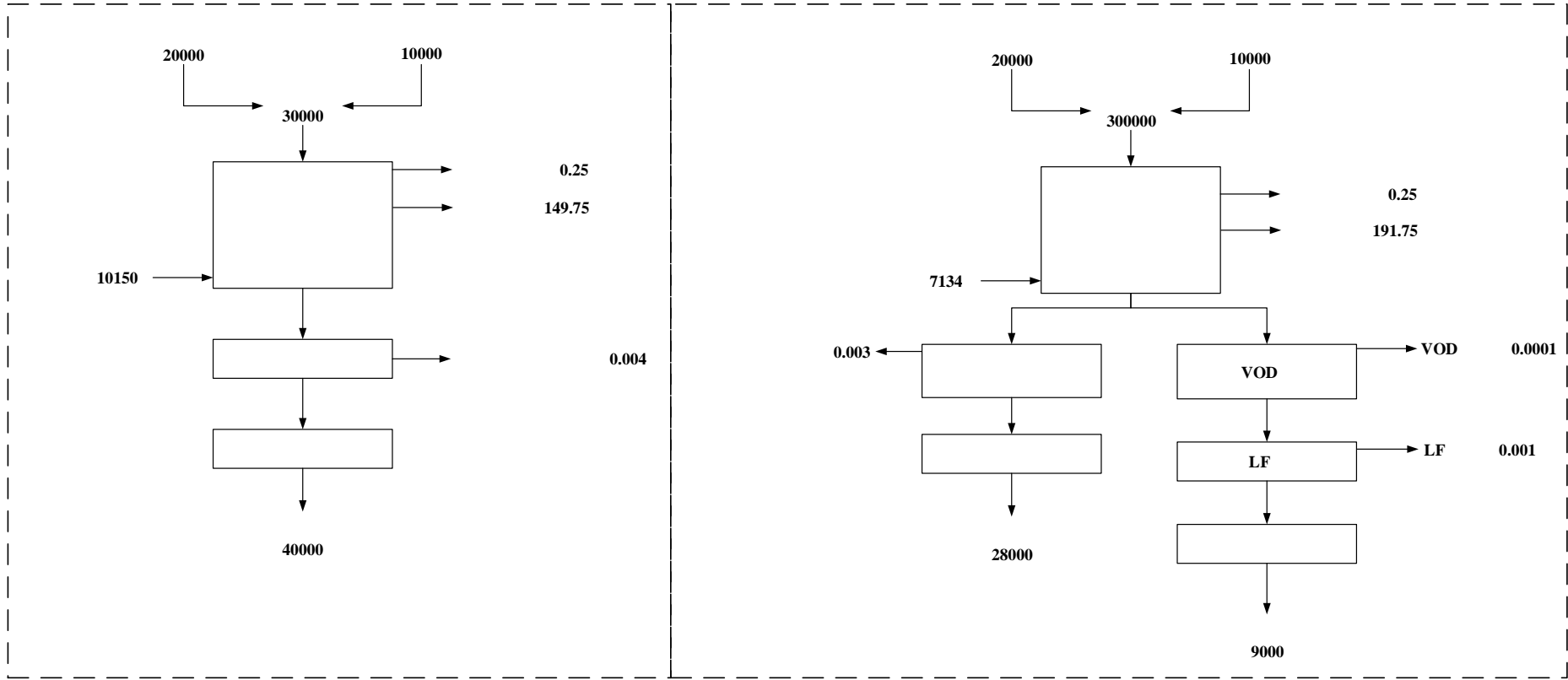
3.2.6

t/a		t/a	
	20000		40000
	10000		149.75
	10150		0.25
	40150		40150
	20000		28000
	10000		9000
	7134		133.75
			0.25
	37134		37134

3.2.7 3.2-4

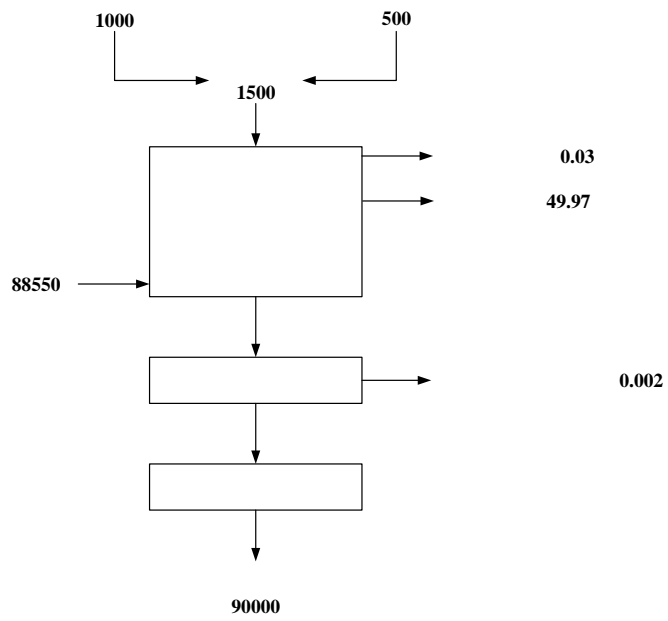
3.2.7

t/a		t/a	
	1000		90000
	500		49.97
	88550		0.03
	90050		90050
	1000		63000
	500		18000
	79550		49.97
			0.03
	81050		81050

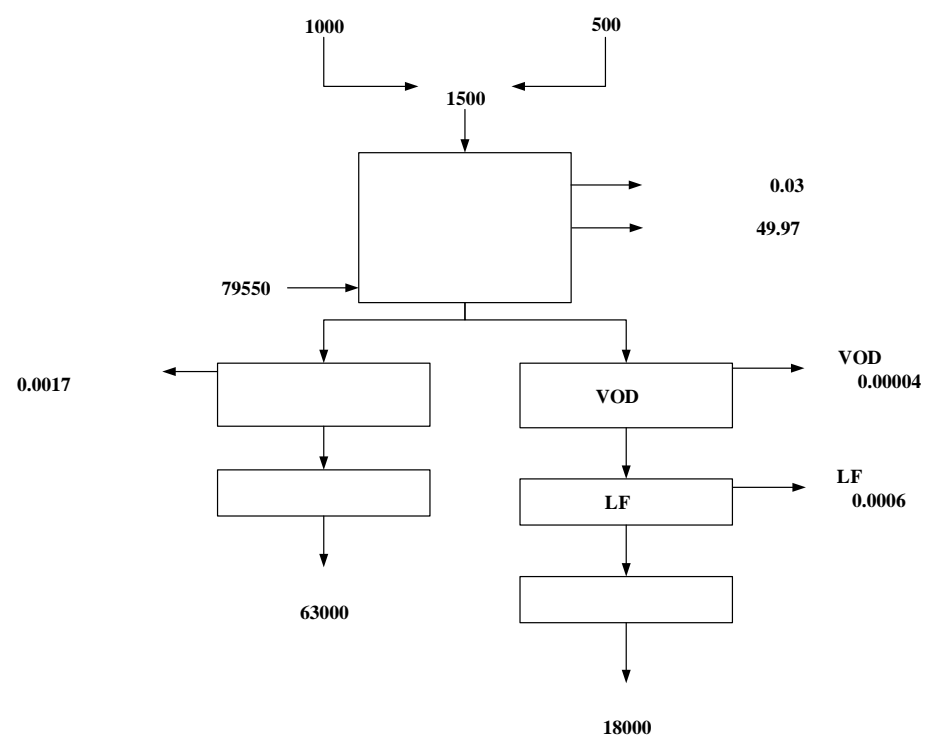


3.2-3

t/a



3.2-4



t/a

3.2.2.3

1 75 LF 1 75 VOD

VOD

+

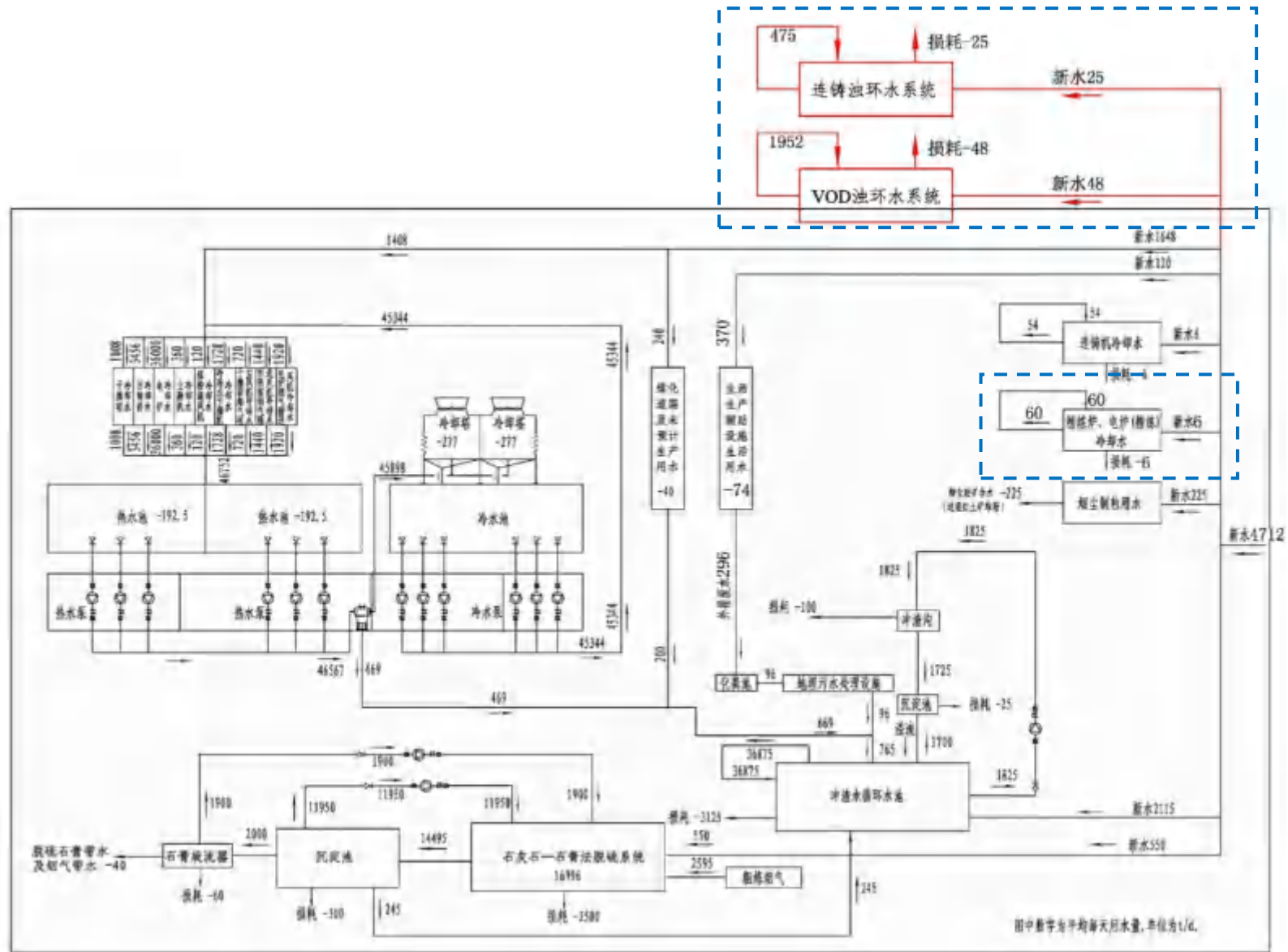
VOD LF

3.2.8

3.2.8

t/d

		1008	32	0	0	976	10	22
		3456	104	0	0	3352	35	69
		36000	1080	0	0	34920	360	720
		360	11	0	0	349	3	8
		120	4	0	0	116	2	2
		1728	52	0	0	1676	18	34
		720	22	0	0	698	6	16
		1440	45	0	0	1395	15	30
		1920	58	0	0	1862	20	38
	*	60	6	0	0	54	0	6
		60	6	0	0	54	0	6
		225	225	0		0	0	225
		41700	2115	2710		36875	1700	3125
		16995	550	0	2595	13850	245	2900
		370	370	0		0	296	74
		210	210	0		0	200	10
	VOD	2000	48	0	0	1952	0	48
	*	500	25	0	0	475	0	25
		108872	4963					



3.2-6

t/d

3.2.3

3.2.3.1

					60%
	TSP		50	100m	
		NO ₂	CO	THC	
1					
2					
3					
4					()
5					

3.2.3.2

1					
	COD	BOD ₅	SS	NH ₃ -N	
				25	100L/
		80%			
3					

3.2.9

3.2.9

		COD	BOD ₅	SS	NH ₃ -N	
mg/L	/	400	200	200	40	30
kg/d	2000	0.8	0.4	0.4	0.08	0.06

2

10

1

2h

0.8t

3.2.3.3

3.2.10

3.2.10

				dB A	m	
			2	82	5	
			5	85	5	
			5	79	1	
			10	95	1	
			5	80	5	
			20	86	1	

3.2.3.4

1

2

25

1kg

25kg/d

3.2.4

3.2.4.1

VOD

1 VOD

VOD

SS

+

VOD

2

pH SS COD

+

3

VOD LF

3.2.11

3.2.11

		t/d						
				mg/L	t/a	mg/L	t/a	
W1		2137	CODcr	30	22.0	30	22.0	
			SS	220	161.4	15	11.0	
W2		13850	pH	8~10	-	-	-	
W3		45452	CODcr	30	409.07	30	409.07	
			SS	50	681.78	15	204.53	
				1	13.64	0.24	3.27	
W4		296	CODcr	240	15.1	30	1.9	
			BOD ₅	80	5.0	20	1.3	
			SS	230	14.5	15	0.9	
W5		200	CODcr	100	5.8	30	1.8	
			SS	300	17.5	15	0.9	
W6	VOD	2000	SS	500	1.0	50	0.10	VOD
W7		500	CODcr	200	0.1	30	0.015	
			SS	500	0.25	15	0.0075	

3.2.4.2

A VOD

VOD

VOD

1 43

VOD

2000Nm³/h

10mg/Nm³

0.02kg/h

/m³Ã

LF
200~500mg/m³ 10mg/Nm³
0.3kg/h
/m³ /m³ /m³ 0.3g/h 0.15g/h 0.09g/h
LF 0.6 kg/t LF
0.008t/a
18000 / 10400 /
75t 7200h 5040h
75t 1.3 kg/t
75t 0.045t/a
3# 4# 5#
3# 4#
3.2.12
[2019]922
[2019]35
2025

3.2.12

				Nm ³ /h	mg/m ³	kg/h		%									Nm^{3}/h	mg/m^{3}	kg/h
LF			30000	200~500	15	99.0	30000	10	0.3	4320	1	43	60			
				~0.71	0.021			10ug/m ³	0.3g/h							
				~0.36	0.011			5ug/m ³	0.15g/h							
				~0.21	0.006			3ug/m ³	0.09g/h							
				5.96	0.179			0.17	0.009							
VOD			2000	500~1000	2	99.0	2000	10	0.02	4320	0.3	43	60			
				~0.50	0.0010			10ug/m ³	0.02g/h							
				~0.25	0.0005			5ug/m ³	0.01g/h							
				~0.15	0.0003			3ug/m ³	0.006g/h							
				193.83	0.388			1.94	0.004							
75t			53392	500~1000	53.39	99.0	53392	31.34	1.67	5040	3.5	38	60			
				~0.55	0.029			10ug/m ³	0.53g/h							
				~0.32	0.017			5ug/m ³	0.27g/h							
				~0.15	0.010			3ug/m ³	0.16g/h							
				16.76	0.895			0.06	0.002							

3.2.13

		m ³ /h	h	mg/m ³	kg/h	t/a	mg/m ³	kg/h	t/a	mg/m ³	kg/h	t/a	mg/m ³	kg/h	t/a	³	g/h	kg/a	³	g/h	kg/a	³	g/h	kg/a
		72177																						

	LF	30000	4320	10	0.3	1.30	-	-	-	-	-	-	0.06	0.002	0.008	10	0.3	1.296	5	0.15	0.648	3	0.09	0.389
	VOD	2000	4320	10	0.02	0.086	-	-	-	-	-	-	1.94	0.004	0.017	10	0.02	0.086	5	0.01	0.043	3	0.006	0.026
						237.626			334.85			782.85			9.654			772.30			249.30			76.01

[2019]922

[2019]35

3.2.14

3.2.14

		m	m	m		kg/h
M1-1		130	120	8		0.105
M1-2		12	12	12		0.102
M1-3		40.6	12	20		0.001
M1-4		60	14	20		0.004
M1-5		114	42	20		0.009
M1-6		50.4	15	30		0.002
M2-1	2#	7.9	4	6		0.007
M2-2	3#	7.9	4	6		0.007
M2-3	3#	48.2	15.6	6		0.007
M2-4	4#	48.2	15.6	6		0.007
M2-5	5#	48.2	15.6	6		0.007
M2-6	3#	24.2	23.6	8		0.017
M2-7	4#	24.2	23.6	8		0.017
M2-8	5#	24.2	23.6	8		0.017
M2-9		88.0	106.8	6		0.007

LF

50%

3.2.15

	m ³ /h	m		mg/m ³	kg/h	
LF	30000	38	25	250	7.5	2h

3.2.4.3

VOD

3.2.16

3.2.16

		dB(A)			dB(A)

VOD	1	120			85
	1	85~90			70~75
	2	100~110			70~80

3.2.4.4

VOD

3.2.16

3.2.16

		t/a	t/a		
		122137	125960.2	FeO Ni SiO ₂ MgO	
		165350	165422.71		
		105	125	Ni Co	

3.2.17

3.2.17

		FeO Ni SiO ₂ MgO	450000		
			15127		
		CaSO ₃ CaSO ₄ CaCO ₃	1894		
		Ni Cr Co	25		
		Ni Cr Co	300		
			10		
			15		
			150		
			1510401		
		FeO Ni SiO ₂ MgO	125960.2		
			150295.71		
		CaSO ₃ CaSO ₄ CaCO ₃	4377		
		Ni Cr Co	100		
			30		

		15		
		264		
	SiO ₂	9100		
	CaSO ₃ CaSO ₄ CaCO ₃	50		
	Fe Ni Cr	1500		
	Fe Ni Cr	5000		
	Fe Ni Cr	2300		
	Fe Ni Cr	200		
		400		
	Fe Ni	150		
	Fe Ni	10000		
		14.5		

3.2.18

3.2.18

		3.2.19						t/a
		0	0	0	0	0		
		0	0	0	0	0		
		0	0	0	0	0		
		5.07	24.36	0	0	227.426	24	
		1.71	22.294	1.382	241.852	237.626	22	
		0.74	112.634	0	35.89	334.85	11	
		2.85	141.098	0	0	782.85	14	
		0	5.048	0	0	0	5	
		0	1.635	0	0	0	1	
		739	0.087	0.028	-0.03	9.654	0	
		2.42	0	1.382	0	772.30		
		250	0	0.691	0	249.30		
		6.16	0	0.415	0	76.01		
		0	0	0	0	0		
		0	0	0	0	0		
			3.2					
	SO ₂ t/a			531.8		531.8		0
	NO _x t/a			1055.4		1055.4		0

3.2.5

3.2.5.1

15

VOD

LF

3.2.5.2

1

VOD LF

2

	33678.88	77815.63
-763.31		

3

4

3.2.5.5

100%

3.2.21

3.2.21

1. KVA	50000	25000	12500	33000	
2.					
3.	PLC	PLC		PLC	
1. kWh/t	4000		4200	1750	
1. %	92.0			97.0	
1. %	95			95.8	
2. %	100	95	90	100	
3. %	100	95	90	100	

3.2.22

1.				

2.				
3.	ISO14001			
4.	()			
5.	1. 2.	1. 2.	1. 2.	
6.				

3.2.5.7

3.2.6

3.2.6.1

1 75 LF 1 75

VOD

2019

3.2.6.2

1

230 2025 470
700

- - - - -

3.2.21

1			500m	
2			2021 5 17 91350981671942576Q	
3				
4			2019	
5				

6		PM _{2.5}		
---	--	-------------------	--	--

3

3.2.22

1	1.	500m	500m	
	2.			
2	1.			
	2.	()		
	3.			
	4.	SO ₂ 912.25t/a NO _x 925.83t/a PM ₁₀ 710.43t/a PM _{2.5} 355.215t/a	2021 5 17 91350981671942576Q	
	5.	SO ₂ 77.794t/a NO _x 638.079t/a PM ₁₀ 753.473t/a PM _{2.5} 376.737t/a VOCs113.361t/a		
3				

--	--	--	--	--

(2011~2030)

(2011~2030)

-

5

1000m

1km

2017

32

234

233

1

2020

2030

68.65

2
2018

15

VOD

LF

1 ZH35098120005

3.2.23

1				
		1.	1.5	
		2. 3.		

1 ZH35098120005

A

2025 PM_{2.5}
 2035 PM_{2.5}
 3
 2021
 8 3 14 3 3 3 PM_{2.5} g/m³ 2025
 25ug/m³ PM_{2.5}
 PM_{2.5} 23ug/m³

B

2025

2030

2035

C

2025

93

2035

95

A

73t/d

B

C

-763.31

RKEF

33000kVA

2008 13

[2006]567

3.2.22

3.2.24

	25MVA	3 33000kVA 3 120MVA	
		3# 4#	
			3760
		kW h /t	
			97.0%
	95%		95.8%
		1km	
	1	32	2017
			234

	233	
GB25467-2010	GB25467-2010	
GB25467-2010		

30 40

2km

40

2

				Q_{4c}^m
			(Q_3^{al+pl})	
	J_{3n}			u
1:20				
9				
	-		2.50	21.00m
			10.05	25.60m
	-		7.15	10.10m
			2.90	29.10m
	-	ZK3	4.10m	
			1.00	13.40m
			2.50	14.25m
	-		0.80	3.50m
	-		1.4	9.5m

4.1.4

1				
			19.8	39.1
-0.9				

		1513.8mm		2035.2mm	
1043.2mm		231.7mm		3 9	
83.2%		25mm		16.4d	
4				82%	12 4
		1.5 7 8 9			9.6
18		3			
5					
		3			
11	12		2	4	9.6 d
6					
					7 8
10	1				
7					
78%	3 6			80%~82%	10 2
	74%				

4.1.5

1

	5638km ²	1658km ²	433km
185.4km			
	0.21	3900m ²	36 km
148m ³ /s	12.1m ³ /s	0.15m/s	

	0.147kg/m ³		34.9		
5~9	11	3			69.69
m ³	1142.3mm		0.67		
		4~9			75%
10~3		25%			
2					
		22km			
		1997	8		
					0.238
	1.9m/s		1.4m/s	1977	8
1978	7		E	21%	ENE
	E	0.8m	ENE	0.7	0.1m
	17%		13cm/s		
		0m			
	3				
		6085.3 m ³		5384 m ³ /	
	88.48%	1760.62km ²		6m	
	701.3 m ³ /		11.52%		
	3.44 m ³		17.3%		

4.1.6

1

1400m
900m

700 1400m
900m

800

2

1.0-1.5m

4.1.7

1

6

800m

400 1000m

300

2

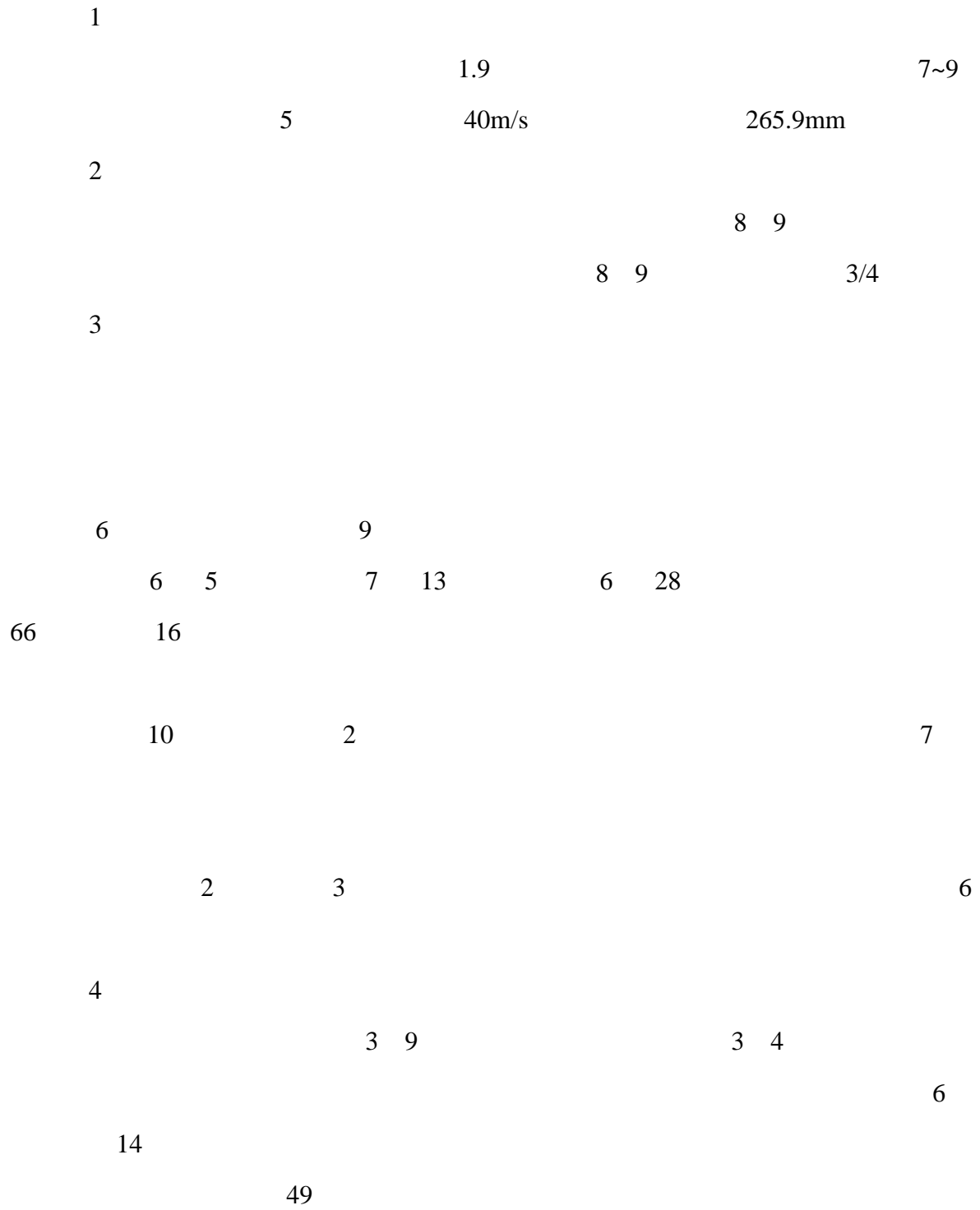
800 1000

500 800

500

4.1.8

4.1.9



0.3 2

5 90 12 2 12 1 12 5 2 17

6 12 5 9 6 9 7 8 84 4.1 4.7

7 7 4.5 5.7 8 38

8 1970 4096

4000 200mm 103 1999

4111 138 250mm 925

2005 3

2004

4.2

4.2.1

HJ2.2-2018

2021 4.2.1

4.2.2 6 SO₂ NO₂ CO O₃ PM₁₀

4.2.1 2021

		%	%	%
	365	99.2	59.5	39.7
	365	100	72.9	27.1
	361	100	89.2	10.8
	364	100	72	28
	363	99.7	77.4	22.3

4.2-1

1

4.2.4

4.2.4

	TSP
	(02/08/14/20) 7

2

GB3095-2012

4.2.5

4.2.5

TSP	GB/T 15432-1995	ME55 JW-S-94	0.001mg/m ³
	/ HJ 955-2018	PHS-3C pH JW-S-05	3 3
		Avio200	3
		JW-S-73	0 3
			0.004 0.005

	B	721G JW-S-64	$4 \times 10^{-5} \text{mg/m}^3$
--	---	-----------------	----------------------------------

3

GB3095-2012

$$Y = \frac{C_i}{C_j} = 100\%$$

C_i i mg/m^3
 C_{oi} i mg/m^3
 S_i %
 S_i i S_i 100

4

4.2.6~ 4.2.7

4.2.6

	m^3		m^3			
		%	%	%	%	
	<0.5	1.25	0	<0.06	0.43	0

4.2.7

				%	
		<0.005	3	2.08	0
		<0.003	3	0.15	0
		<0.004	3	20	0
		<0.003	3	/	0
		$<3 \times 10^{-3}$	3	1.5	0
		$<4 \times 10^{-5}$	mg/m^3	/	0
	TSP	86~96	3	32	0

4.2.6~ 4.2.7

3

3

1.25%

0.43%

TSP TSP 86~97 g/m³ 32%
TSP
4.2.5~ 4.2.6 TSP
GB3096-2012

4.2.3

2016 ~2021 SO₂ NO₂
PM₁₀ PM_{2.5}

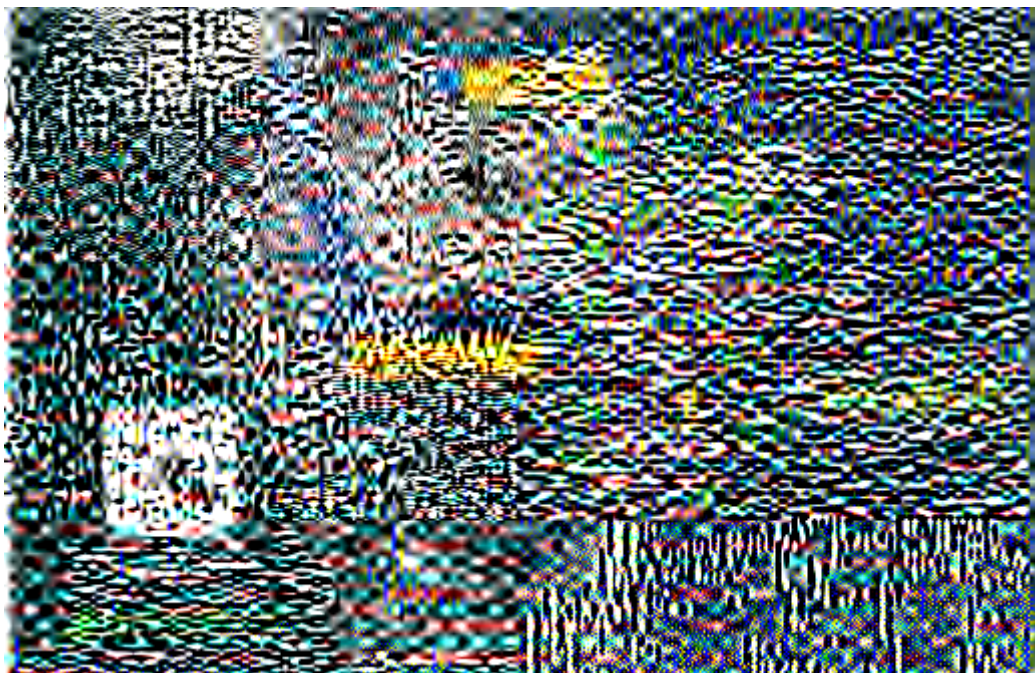
4.3

1

2022

9 28

4.3-1



4.3-1

2

HJ2.4-2021

GB3096-2008

AWA5688

3

4

4.3.1

4.3.1

dB(A)

1#	62	55	65	55
2#	57	55	65	55
3#	61	54	65	55
4#	58	53	65	55
5#	55	54	65	55
6#	57	53	65	55
7#	64	56	65	55

8#	63	55	65	55
9#	64	54	65	55
10#	64	53	65	55
11#	67	58	65	55
12#	63	54	65	55
13#	63	53	65	55
14#	67	58	65	55
15#	68	57	65	55

5

55dB~68dB

53dB~58dB

11# 14# 15#

(GB3096-2008)3

7# 11# 14# 15#

(GB3096-2008)3

420 200

4.4

4.4.1

2022

8

4.4.1

4.4-1

4.4-2

2022

12

17

4.4.1

	/ /		/	
		BS1		26.771323°N 119.741323°E
		CS1		26.766561°N 119.736578°E
		DS1		26.774173°N 119.740140°E
		ES1		26.772044°N 119.732868°E
		FS1		26.766400°N 119.730857°E
		GS1		26.776782°N 119.735972°E
		HS1		26.769709°N 119.738313°E
/		W1		26.797539°N 119.722382°E

4.4-1

4.4.2

4.4.2

4.4.2

				mg/L
1		DZ/T 0064.4-2021	4	/
2		GB/T5750.4-2006	3.1	/
3	/NTU	GB/T5750.4-2006	2.2	/
4		GB/T5750.4-2006	4.1	/
5	pH	GB 6920-1986 pH		
6	CaCO ₃	GB/T 5750.4-2006 7.1		1.0
7		DZ/T0064.9-2021	9	/
8		HJ 84-2016	F ⁻ Cl ⁻ NO ₂ ⁻ Br ⁻ NO ₃ ⁻ PO ₄ ³⁻ SO ₃ ²⁻ SO ₄ ²⁻	0.018
9		GB 17378.4-2007	4 28	/
10		GB 11911-89		0.03
11		GB 11911-89		0.01
12		DZ/T0064.83.2021	83	0.007
13		DZ/T0064.83.2021	83	0.003
14		DZ/T0064.42-2023	42	0.005
15		HJ 503-2009	4-	0.0003
16		GB 7494-1987		0.05
17		DZ/T0064.68-2021	68	0.4
18		DZ/T0064.57-2021		0.01
19		HJ 84-2016	F ⁻ Cl ⁻ NO ₂ ⁻ Br ⁻ NO ₃ ⁻ PO ₄ ³⁻ SO ₃ ²⁻ SO ₄ ²⁻	0.006
21		HJ 84-2016	F ⁻ Cl ⁻ NO ₂ ⁻ Br ⁻ NO ₃ ⁻ PO ₄ ³⁻ SO ₃ ²⁻ SO ₄ ²⁻	0.016
22		HJ 84-2016	F ⁻ Cl ⁻ NO ₂ ⁻ Br ⁻ NO ₃ ⁻ PO ₄ ³⁻ SO ₃ ²⁻ SO ₄ ²⁻	0.016
23		HJ 823-2017	-	0.001
24		HJ 84-2016	F ⁻ Cl ⁻ NO ₂ ⁻ Br ⁻ NO ₃ ⁻ PO ₄ ³⁻	0.006

			SO ₃ ²⁻ SO ₄ ²⁻	
25		HJ 778-2015		2
26		HJ 694-2014		0.0015
27		HJ 694-2014		0.2
28		HJ 776-2015	32	0.03
29		HJ 700-2014	65	0.05
30		GB 7467-1987		0.004
21		HJ 700-2014	65	0.00009
32		HJ 686-2014		0.1
33		HJ 686-2014		0.1
34		HJ 639-2012		- 0.0014
35		HJ 639-2012		-

1

2

(GB/T14848-2017)

3

4.4.3

8

6

2

/NTU

pH

CaCO₃

[a]

[a]

[b]

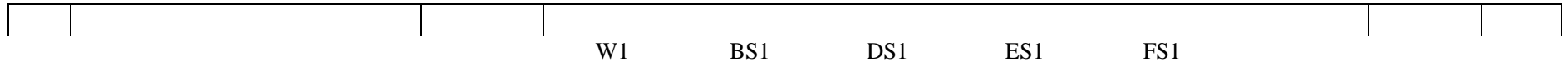
[k]

[a,h]

[1,2,3-cd]

GB/T 14848-2017 III

4.4.3



28	mg/L	0.00009	0.00009	0.00009L	0.00009L	0.00009L	0.00009L	0.00009L		
29	mg/L	0.00006	0.00016	0.00020	0.00006L	0.00024	0.00019	0.00018		
30	mg/L	0.00008	0.00012	0.00068	0.00058	0.00034	0.00013	0.00024	/	/
31	mg/L	0.00003	0.00003L	0.00003L	0.00003L	0.00003L	0.00003L	0.00003		
32	mg/L	0.018	2.97	4.04	0.700	0.841	0.855	1.83		
33	mg/L	0.007	2.23	38.9	1.04	1.05	0.957	1.09		
34	mg/L	0.0014	0.0014L	0.0014L	0.0014L	0.0014L	0.0014L	0.0014L		
35	mg/L	0.0015	0.0015L	0.0015L	0.0015L	0.0015L	0.0015L	0.0015L		
36	mg/L	0.0014	0.0014L	0.0014L	0.0014L	0.0014L	0.0014L	0.0014L		
37	mg/L	0.0014	0.0014L	0.0014L	0.0014L	0.0014L	0.0014L	0.0014L		
38	mg/L	1.2×10 ⁻⁵	1.2×10 ⁻⁵ L	1.2×10 ⁻⁵ L	1.2×10 ⁻⁵ L	1.2×10 ⁻⁵ L	1.2×10 ⁻⁵ L	1.2×10 ⁻⁵ L		
39	mg/L	5×10 ⁻⁶	5×10 ⁻⁶ L	5×10 ⁻⁶ L	5×10 ⁻⁶ L	5×10 ⁻⁶ L	5×10 ⁻⁶ L	5×10 ⁻⁶ L		
40	mg/L	2×10 ⁻⁶	2×10 ⁻⁶ L	2×10 ⁻⁶ L	2×10 ⁻⁶ L	2×10 ⁻⁶ L	2×10 ⁻⁶ L	2×10 ⁻⁶ L		
41	mg/L	8×10 ⁻⁶	8×10 ⁻⁶ L	8×10 ⁻⁶ L	8×10 ⁻⁶ L	8×10 ⁻⁶ L	8×10 ⁻⁶ L	8×10 ⁻⁶ L	/	/
42	[a] mg/L	7×10 ⁻⁶	7×10 ⁻⁶ L	7×10 ⁻⁶ L	7×10 ⁻⁶ L	7×10 ⁻⁶ L	7×10 ⁻⁶ L	7×10 ⁻⁶ L	/	/
43	[b] mg/L	3×10 ⁻⁶	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L		
44	[k] mg/L	4×10 ⁻⁶	4×10 ⁻⁶ L	4×10 ⁻⁶ L	4×10 ⁻⁶ L	4×10 ⁻⁶ L	4×10 ⁻⁶ L	4×10 ⁻⁶ L	/	/
45	[a] mg/L	1×10 ⁻⁶	1×10 ⁻⁶ L	1×10 ⁻⁶ L	1×10 ⁻⁶ L	1×10 ⁻⁶ L	1×10 ⁻⁶ L	1×10 ⁻⁶ L		/
46	[a,h] mg/L	3×10 ⁻⁶	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	/	/
47	[1,2,3-cd] mg/L	3×10 ⁻⁶	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	3×10 ⁻⁶ L	/	/
48	C10-C40 mg/L	0.01	0.04	0.02	0.04	0.03	0.03	0.03	/	/
49	mg/L	0.001	0.001L	0.001L	0.001L	0.001L	0.001L	0.001L		/



4.5-1

4.5-2

4.5-3

4.5.2

HJ/T166-2004

GB36600-2018

4.5.3

11	1,1-	HJ 605-2011	-	/	0.0012
12	1,2-	HJ 605-2011	-	/	0.0013
13	1,1-	HJ 605-2011	-	/	0.001
14	-1,2-	HJ 605-2011	-	/	0.0013
15	-1,2-	HJ 605-2011	-	/	0.0014
16		HJ 605-2011	-	/	0.0015
17	1,2-	HJ 605-2011	-	/	0.0011
18	1,1,1,2-	HJ 605-2011	-	/	0.0012
19	1,1,2,2-	HJ 605-2011	-	/	0.0012
20		HJ 605-2011	-	/	0.0014
21	1,1,1-	HJ 605-2011	-	/	0.0013
22	1,1,2-	HJ 605-2011	-	/	0.0012
23		HJ 605-2011	-	/	0.0012
24	1,2,3-	HJ 605-2011	-	/	0.0012
25		HJ 605-2011	-	/	0.0010
26		HJ 605-2011	-	/	0.0019
27		HJ 605-2011	-	/	0.0012
28	1,2-	HJ 605-2011	-	/	0.0015
29	1,4-	HJ 605-2011	-	/	0.0015
30		HJ 605-2011	-	/	0.0012
31		HJ 605-2011	-	/	0.0011
32		HJ 605-2011	-	/	0.0013
33	+	HJ 605-2011	-	/	0.0012
34		HJ 605-2011	-	/	0.0012
35		HJ834-2017	-		0.09

36		HJ834-2017	-	0.1
37	2-	HJ834-2017	-	0.06
38	(a)	HJ834-2017	-	0.1
39	[a]	HJ834-2017	-	0.1
40	(b)	HJ834-2017	-	0.2
41	(k)	HJ834-2017	-	0.1
42		HJ834-2017	-	0.1
43	(a,h)	HJ834-2017	-	0.1
44	(1,2,3-cd)	HJ834-2017	-	0.1
45		HJ605-2011	- /	0.0004
46	C ₁₀ -C ₄₀	HJ 1021-2019	C10-C40	6
47		HJ 873-2017		63
48	pH	NY/T1121.2-2006	2 pH	-
49		HJ 834-2017	-	0.1
50		HJ 745-2015		0.01
51		HJ 780-2015	X	4
52		HJ 780-2015	X	7
53		HJ 780-2015	X	1.6

4.5.3

4.5.4~ 4.5.8

4.5.4

mg/kg

			S1(0.0~0.5m	AT1 0~0.5m	BT1 0~0.5m	CT1 0~0.5m	DT1 0~0.5m	ET1 0~0.5m	FT1 0~0.5m			
1	pH	/	6.51	8.03	5.65	7.82	6.97	8.25	8.29	/	/	
2		63	512	531	534	704	801	811	897	/	/	
3		0.01	ND	ND	ND	ND	ND	ND	ND	135		
4		0.01	7.82	3.44	3.59	6.16	13.1	10.5	5.46	60		
5		0.002	0.107	0.059	0.048	0.072	0.035	0.074	0.321	38		
6		0.01	0.12	1.03	0.32	0.24	0.32	0.37	0.12	65		
7		10	17	75	42	16	16	16	90	800		
8		1	15	11	14	18	7	10	21	18000		
9		3	8	20	64	52	33	54	29	900		
10		0.5	ND	ND	ND	ND	ND	ND	ND	5.7		
11		1	100	171	104	170	63	68	91	/	/	
12		2	9	ND	5	20	8	8	2	70		
13		0.0010	ND	ND	ND	ND	ND	ND	ND	37		
14		0.0010	ND	ND	ND	ND	ND	ND	ND	0.43		
15	1,1-	0.0010	ND	ND	ND	ND	ND	ND	ND	66		
16		0.0015	ND	ND	ND	ND	ND	ND	ND	616		
17	-1,2-	0.0014	ND	ND	ND	ND	ND	ND	ND	54		
18	1,1-	0.0012	ND	ND	ND	ND	ND	ND	ND	9		
19	-1,2-	0.0013	ND	ND	ND	ND	ND	ND	ND	596		
20		0.0011	ND	ND	ND	ND	ND	ND	ND	0.9		
21	1,1,1-	0.0013	ND	ND	ND	ND	ND	ND	ND	840		
22		0.0013	ND	0.0114	0.0215	0.0018	0.0539	ND	0.0047	2.8		
23		0.0019	ND	ND	ND	ND	ND	ND	ND	4		
24	1,2-	0.0013	ND	ND	ND	ND	ND	ND	ND	5		
25		0.0012	ND	ND	ND	ND	ND	ND	ND	2.8		

27		0.0013	ND	ND	ND	ND	ND	ND	ND	1200	
28	1,1,2-	0.0012	ND	ND	ND	ND	ND	ND	ND	2.8	
29		0.0014	ND	ND	ND	ND	ND	ND	ND	53	
30		0.0012	ND	ND	ND	ND	ND	ND	ND	270	

4.5.6

mg/kg

			GT1	BT2			DT2	DT3	ET2			
			0~0.5m	0.0~0.5m	0.0~0.5m	0.0~0.5m	0.0~0.5m	0~0.5m	0~0.5m			
1	pH	/	8.02	7.78	7.78	7.69	5.32	5.33	5.10	/	/	
2		63	896	550	585	577	502	513	520	/	/	
3		0.01	ND	ND	ND	ND	ND	ND	ND	135		
4		0.01	12.1	6.56	7.35	7.26	8.02	7.01	6.59	60		
5		0.002	0.043	0.047	0.061	0.058	0.094	0.086	0.067	38		
6		0.01	0.38	0.52	0.46	0.54	0.32	0.23	0.23	65		
7		10	17	20	24	28	26	19	16	800		
8		1	27	5	5	4	9	9	8	18000		
9		3	96	24	18	25	47	42	36	900		
10		0.5	ND	ND	ND	ND	ND	ND	ND	5.7		
11		1	73	96	87	88	96	72	75	/	/	
12		2	13	4	4	5	5	4	3	70		
13		0.0010	ND	ND	ND	ND	ND	ND	ND	37		

14

27		0.0013	ND	ND	ND	ND	ND	ND	ND	1200	
28	1,1,2-	0.0012	ND	ND	ND	ND	ND	ND	ND	2.8	
29		0.0014	ND	ND	ND	ND	ND	ND	ND	53	
30		0.0012	ND	ND	ND	ND	ND	ND	ND	270	
31	1,1,1,2-	0.0012	ND	ND	ND	ND	ND	ND	ND	10	
32		0.0012	ND	ND	ND	ND	ND	ND	ND	28	
33		0.0012	ND	ND	ND	ND	ND	ND	ND	570	
34		0.0012	ND	ND	ND	ND	ND	ND	ND	640	
35		0.0011	ND	ND	ND	ND	ND	ND	ND	1290	
36	1,1,2,2-	0.0012	ND	ND	ND	ND	ND	ND	ND	6.8	

4.5.5

mg/kg

			FT2		GT2	HT2			HT3
			0.5~1.0m	2.5~3.0m	0.0~0.5m	0.0~0.5m			0.0~0.5m
1	pH	/	10.54	10.31	5.24	6.56	6.64	/	/
2		63	2.54×10^{-3}	1.13×10^{-3}	508	723	571	/	/
3		0.01	ND	ND	ND	ND	ND	135	
4		0.01	10.6	11.6	6.56	9.76	6.06	60	

27		0.0013	ND	ND	ND	ND	0.0014	1200	
28	1,1,2-	0.0012	ND	ND	ND	ND	ND	2.8	
29		0.0014	ND	ND	ND	ND	ND	53	
30		0.0012	ND	ND	ND	ND	ND	270	
31	1,1,1,2-	0.0012	ND	ND	ND	ND	ND	10	
32		0.0012	ND	ND	ND	ND	ND	28	
33		0.0012	ND	ND	ND	ND	ND	570	
34		0.0012	ND	ND	ND	ND	ND	640	
35		0.0011	ND	ND	ND	ND	ND	1290	
36	1,1,2,2-	0.0012	ND	ND	ND	ND	ND	6.8	
37	1,2,3-	0.0012	ND	ND	ND	ND	ND	0.5	
38	1,4-	0.0015	ND	ND	ND	ND	ND	20	
39	1,2-	0.0015	ND	ND	ND	ND	ND	560	
40		0.1	ND	ND	ND	ND	ND	260	
41	2-	0.06	ND	ND	ND	ND	ND	2256	
42		0.09	ND	ND	ND	ND	ND	76	
43		0.09	ND	ND	ND	ND	ND		

4.5.7

		S9		
	mg/kg	5.85	60	
	mg/kg	0.73	65	
	mg/kg	3.8	5.7	
	mg/kg	18	18000	
	mg/kg	95.9	800	
	mg/kg	0.148	38	
	mg/kg	230	900	
		<1.3	2.8×10 ³	
		<1.1	9×10 ²	
		<1.0	3.7×10 ⁴	
1,1-		<1.2	9×10 ³	
1,2-		<1.3	5×10 ³	
1,1-		<1.0	6.6×10 ⁴	

[a]		35.8	1.5×103	
[a h]		<5	1.5×103	
[1,2,3-cd]		104	1.5×104	
	mg/kg	3	4500	
pH		7.39	/	
	mg/kg	689	/	/
	mg/kg	<0.7	/	/
	mg/kg	13.2	70	
	mg/kg	16.5	752	

4.5.8

			6	7.5	
pH		6.7	/	/	/
	mg/kg	11	100	/	/
	mg/kg	59	120		
	mg/kg	96	250		
	mg/kg	4.05	30		
	mg/kg	0.076	2.4		
	mg/kg	16	100		
	mg/kg	0.18	0.3		
	mg/kg	12	200		

GB 36600-2018

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4.6

4.6.1

4.6.1

4.6.1

1		600MW	660MW	2
2				50
				82

			81.6	
			24.8	
3			200	
			50	
4				
5			300	30
6			50	
			25	
7			100	
			70	

8

25			53	
26	80		80	
27	1780mm		300	
28			90	

4.6.2

4.6.2~4.6.3

4.6.2

		t/d	COD	t/a	t/a
1		4800000	0		0
2		0	0		0
		0	0		0
		0	0		0
3		0	0		0
4		487.2	1.18		0.07
5		66.8	0		0
6		4292	81.2		8.12
7		0	0		0
8		790	13.17		1.32
9		28.27	0.57		0.06
10		21.8	0		0
11		3.6	0		0
12	50	0	0		0
13		0	0		0
14		0	0		0
15	60	120	0		0
16		0	0		0
17		0	0		0
18	80	0	0		0

19	1780mm	1176	35.24	3.52
20		0	0	0
		6985.67	131.36	13.09

4.6.3

t/a

		NOx	SO ₂	
1		2194.5	1534.5	440
2	10	132	44	56.6
	20 50	719.5	382.2	576.8
	850mm 82 81.6 24.8	532.8	162.9	14.8
3		1050.62	909.06	1326.55
4		12.96	SO ₂	2.16
5		49.86	SO ₂	20.09
6		722.178	117.857	168.448
7		76.8	0	18.72
8		9.6	0.48	0.96
9		224.1	30.21	15.88
10		0.5	0.08	0.56
11	50	1051.3	978.0	704.4
12		146.62	53.76	39.96
13		798.43	419.12	896.88

14

60

4.6-1

5

5.1

5.1.1.1

1

2

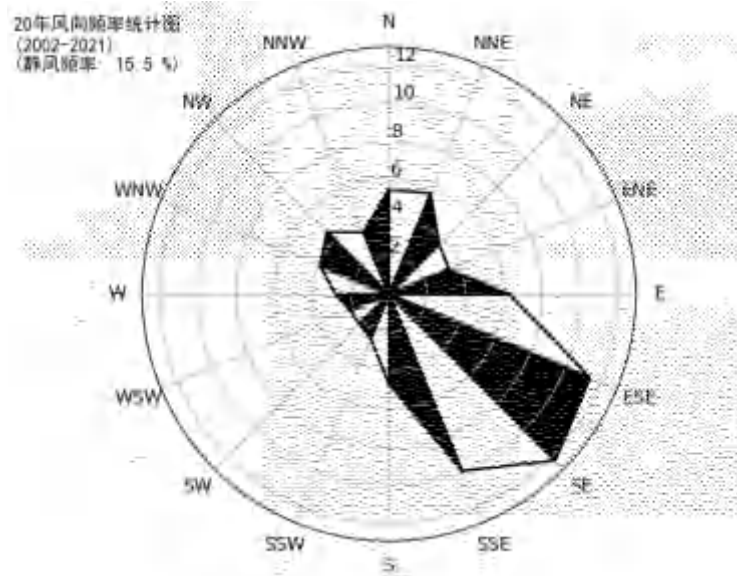
THC

80-100mg/m³

CO

60-80mg/m³

m/s	1.1		
(%)	SE 12.3%		
(≤0.2m/s)(%)	15.5		
*		*	**
**			



5.1-1

15.5 %

5.1.2.2

1

5.1.3

2

5.1.4~ 5.1.10

5.1.3

		X	Y													
		m	m	m	m	m	Nm ³ /h	h	kg/h	kg/h	kg/h	kg/h	kg/h	kg/h	kg/h	
1	LF	288	337	20	43	1	30000	60	4320		0.3	0.15	0.002	0.0003	0.00015	0.00009
2	VOD	296	353	20	43	0.3	2000	60	4320		0.02	0.01	0.004	0.00002	0.00001	0.000006
3	3#~5#	233	335	20	38	3.5	577762	60	7200	2.89	18.11	9.055	0.29	0.00636	0.00369	0.00208
4	3# 4#	262	333	20	38	3.5	612238	60	7200	3.06	19.19	9.595	0.29	0.00668	0.00384	0.00217
5		82	850	20	38	1.5	72177	60	7200	3.61	0.72	0.36				
6	2	315	242	20	38	3.5	311600	60	7200	15.58	3.12	1.56				

3	60	1#~5# ()	-1972	3566	5	22	1	9000	150	7200	0.05	0.09	0.045	/	/
4		6#~8# ()	-2093	3710	4	22	0.8	4400	150	7200	0.02	0.04	0.02	/	/
5		1#~5# ()	-1886	3559	6	22	1	9000	150	7200	0.05	0.09	0.045	/	/
6		6#~9# ()	-2018	3794	3	22	0.8	5000	150	7200	0.03	0.05	0.025	/	/
7		G1	2751	2248	0	15	0.4	10000	20	7200	0.83	0.27	0.135	/	/
8		G2	2824	2251	0	15	0.4	10000	20	7200	0.83	0.27	0.135	/	/

5.1.5

		UTM X	UTM Y	m	m	m	m/s	K					
									SO ₂	PM ₁₀	PM _{2.5}		
									g/s	g/s	g/s	g/s	g/s
Q1	1	775.124	2965.652	10	25	2.7	4.7	313.15		0.8	0.4		
Q2	2	775.055	2965.650	10	25	2.7	4.7	313.15		0.8	0.4		
Q3	No1	775.091	2965.707	10	30	0.5	9.5	313.15		0.056	0.028		
Q4	AZ1	775.092	2965.690	10	30	0.5	9.5	313.15		0.056	0.028		
Q5	AZ2	775.100	2965.708	10	30	0.5	9.5	313.15		0.056	0.028		
Q6	BZ1	775.103	2965.693	10	30	0.5	9.5	313.15		0.056	0.028		
Q7	BZ2	775.090	2965.677	10	30	0.5	9.5	313.15		0.056	0.028		
Q8	BZ3	775.105	2965.678	10	30	0.5	9.5	313.15		0.056	0.028		
Q9	BZ4	775.027	2965.673	10	30	0.5	9.5	313.15		0.056	0.028		
Q10	BZ5	775.029	2965.649	10	30	0.5	9.5	313.15		0.056	0.028		
Q11		775.028	2965.712	10	30	1.5	7.7	313.15		0.417	0.2085		
Q12		775.021	2965.564	10	30	3.0	7.2	313.15		1.611	0.8055		
Q13		775.003	2965.547	10	30	2.7	7.0	313.15		1.25	0.625		

Q14		775.005	2965.690	10	20	0.8	11.1	313.15		0.111	0.0555		
Q15		775.023	2965.824	10	20	0.8	11.1	313.15		0.111	0.0555		
Q16		774.949	2965.752	10	150	5.0	9.9	323.15	9.681	3.872	1.936	0.383	0.004
Q17		774.980	2965.564	10	40	4.0	6.6	423.15		1.667	0.8335		
Q18	1	775.007	2965.823	10	30	0.5	10.9	313.15		0.021	0.0105		
Q19	2	775.003	2965.837	10	30	0.5	10.9	313.15		0.021	0.0105		
Q20	3	774.933	2965.834	10	30	0.5	10.9	313.15		0.021	0.0105		
Q21	4	774.885	2965.831	10	30	0.5	10.9	313.15		0.021	0.0105		
Q22	5	774.885	2965.818	10	30	0.5	10.9	313.15		0.021	0.0105		
Q23		774.801	2965.801	10	30	2.0	8.4	313.15	0.079	0.264	0.132		
Q24		774.892	2965.671	10	30	1.0	7.1	313.15		0.056	0.028		
Q25		774.728	2965.761	10	40	3.5	14.4	313.15		1.389	0.6945		
Q26		774.742	2965.762	10	40	3.5	11.5	313.15		1.667	0.8335		
Q27		774.860	2965.674	10	80	3.0	6.5	403.15	1.700	0.283	0.1415		
Q28		774.822	2965.739	10	30	1.2	12.3	313.15		0.139	0.0695		
Q29		774.689	2965.697	10	30	0.8	13.8	313.15		0.069	0.0345		
Q30	1#	774.802	2965.179	10	60	3.5	10.4	313.15		1.5	0.75	0.002	0.00164
Q31	2#	774.781	2965.498	10	60	3.5	10.4	313.15		1.5	0.75	0.002	0.00164
Q32	1#	774.800	2965.195	10	60	4	13.3	373.15		2.5	1.25		0.00272
Q33	2#	774.782	2965.471	10	60	4	13.3	373.15		2.5	1.25		0.00272
Q34	1#AOD	775.015	2965.169	10	60	3.5	9.8	383.15	0.514	1.417	0.7085	0.015	0.00525
Q35	2#AOD	774.997	2965.473	10	60	3.5	9.8	383.15	0.514	1.417	0.7085	0.015	0.00525
Q36	1#VOD	774.802	2965.169	10	60	1	14.2	313.15		0.167	0.0835	0.0005	0.00008
Q37	2#VOD	774.781	2965.486	10	60	1	14.2	313.15		0.167	0.0835	0.0005	0.00008
Q38	LF	774.812	2965.456	10	60	1.5	11.0	373.15		0.292	0.146	0.0012	0.00033
Q39		774.813	2965.209	10	60	0.8	16.6	373.15		0.125	0.0625		
Q40		774.800	2965.207	10	60	2	10.6	313.15		0.5	0.25		
Q41	1#	774.798	2965.221	10	60	3	11.8	313.15		1.25	0.625		
Q42	2#	774.782	2965.440	10	60	3	11.8	313.15		1.25	0.625		
Q43		774.783	2965.459	10	35	1.5	15.7	313.15		0.833	0.4165		
Q44		774.732	2965.593	10	30	0.8	13.3	298.15		0.2	0.1		
Q45		774.744	2965.568	10	60	1.8	8.2	433.15	1.042	0.625	0.3125		

Q46		774.750	2965.539	10	30	2.2	7.3	298.15		0.833	0.4165		
Q47		774.626	2965.650	10	80	2.2	8.8	353.15	1.214	0.203	0.1015		

5.1.6

		X	Y	Z					PM ₁₀	PM _{2.5}
		m	m	m	m ²		m	kg/h	kg/h	kg/h
	QM	-958	1195	0	30000	-34	12	0.0021	0.007	0.0035
	QM	-1008	1316	4	14000	-34	12	0.0051	0.011	0.0055
	U1	2777	2254	0	48600	90	12	/	0.34	0.17
	U2	2904	2333	0	2000	90	12	/	0.24	0.12

5.1.7

		X	Y												
									PM ₁₀	PM _{2.5}					SO ₂
		m	m	m	m	m	Nm ³ /h		kg/h	kg/h	kg/h	kg/h	kg/h	kg/h	kg/h
1	DA001	2230	2694	5	50	2	148000	100	1.5	0.75	/	0.0016	0.0031	0.0019	/
2	DA002	2276	2700	5	50	3.5	500000	60	5	2.5	/	0.0055	0.0105	0.0064	/
3	DA003	2299	2703	5	50	5	800000	60	8	4	0.009	0.004	0.017	0.106	/
4	DA004	2320	2704	5	50	5	800000	60	8	4	0.009	0.004	0.017	0.106	/
5	DA005	2349	2706	5	50	6.5	1600000	60	16	8	0.32	0.018	0.01	0.0001	/
6	DA006	2379	2709	5	50	6.5	1600000	60	16	8	0.32	0.018	0.01	0.0001	/
7	DA007	2394	2711	5	38	1.5	70000	60	0.7	0.35	0.007	0.00079	0.007	0.0003	/
8	DA008	2406	2710	5	38	1.5	70000	60	0.7	0.35	0.007	0.00079	0.007	0.0003	/
9	DA009	2417	2711	5	50	5	800000	50	8	4	/	/	/	/	0.84

5.1.8

		X	Y	Z					PM ₁₀	PM _{2.5}	SO ₂
		m	m	m	m ²	°	m		kg/h	kg/h	kg/h
		2407	2632	5	46200						

		2526	2601	5	23100	85	8	/	/			0.21

5.1.9

		X	Y										
										SO ₂	PM ₁₀	PM _{2.5}	
										kg/h	kg/h	kg/h	kg/h
1	1780mm	DA001	2462	2846	5	85	2.2	134000	200	2.0	1.3	0.8	/
2		DA002	2457	2835	5	85	2.2	134000	200	2.0	1.3	0.8	/
3		DA003	2458	2806	5	85	2.2	134000	200	2.0	1.3	0.8	/
4		DA004	2453	2941	5	32	1.5	80000	30	/	0.8	0.4	/
5		DA005	2451	3012	5	32	2.7	240000	30	/	2.4	1.2	/
6		DA006	2622	3231	5	32	1.3	80000	200	1.2	0.8	0.4	/
7		DA007	2613	3231	5	32	1.3	80000	200	1.2	0.8	0.4	/
8		DA008	2586	3233	5	32	1.3	80000	200	1.2	0.8	0.4	/
9		DA009	2572	3230	5	32	1.3	80000	200	1.2	0.8	0.4	/
10		DA010	2664	3055	5	32	1.5	135000	30	/	1.4	0.7	/
11		DA011	2650	3050	5	32	1.5	135000	30	/	1.4	0.7	/
12		DA012	2569	3049	5	32	1.5	135000	30	/	1.4	0.7	/
13		DA013	2556	3047	5	32	1.5	135000	30	/	1.4	0.7	/
14		DA018	2669	2990	5	32	1.3	30000	30	/	/	/	0.09
15		DA019	2651	2985	5	32	1.3	30000	30	/	/	/	0.09
16		DA020	2581	2916	5	32	1.3	30000	30	/	/	/	0.09
17		DA021	2563	2916	5	32	1.3	30000	30	/	/	/	0.09
18		DA022	2552	3069	5	32	1	25000	30	/	/	/	0.04
19		DA023	2568	3072	5	32	.3	2500	30	/	0.03	0.015	/
20		DA024	2549	3102	5	32	1	25000	30	/	/	/	0.04
21		DA025	2564	3094	5	32	.3	2500	30	/			

1780mm		2657	3009	5	3300	85	25	0.68	0.34	/
		2612	3000	5	3600	85	25	/	/	0.04
	1#	2661	2963	5	450	85	8	/	/	0.0052
	2#	2573	2917	5	450	85	8	/	/	0.0052
		2564	3013	5	450	85	8	/	/	0.0052

2

5.1.11

5.1.11

1			SO ₂ PM ₁₀ PM _{2.5}		
2	- +		SO ₂ PM ₁₀ PM _{2.5}		

3

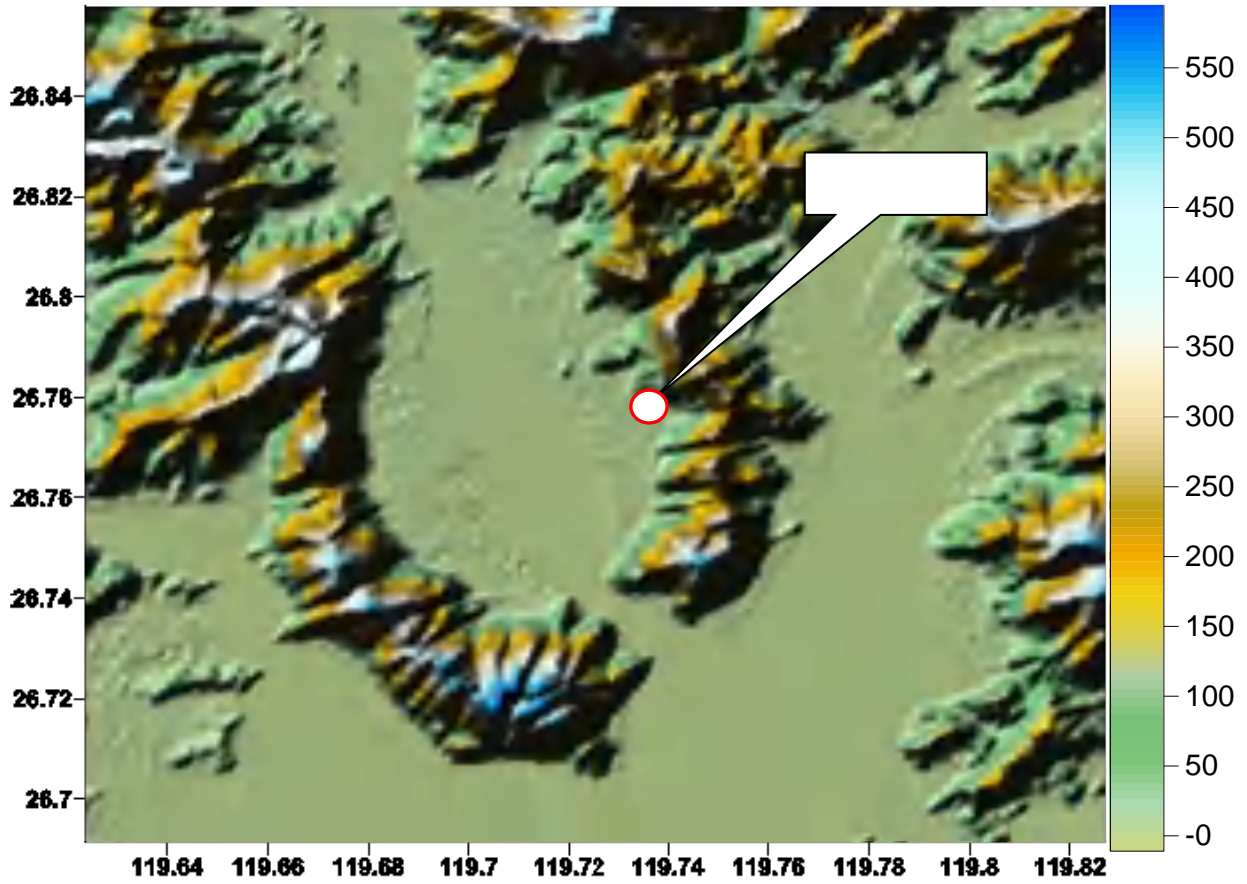
SO₂

5.1-2

5km 5km 90m

5km 5km

-11m 598m



5.1-2

AERMOD

2

5.1.12

				BOWEN	
1	162-320	(12,1,2)	0.2	0.3	0.0001
2	162-320	(3,4,5)	0.12	0.1	0.0001
3	162-320	(6,7,8)	0.1	0.1	0.0001
4	162-320	(9,10,11)	0.14	0.1	0.0001
5	320-162	(12,1,2)	0.35	0.3	1.3
6	320-162	(3,4,5)	0.12	0.3	1.3
7	320-162	(6,7,8)	0.12	0.2	1.3
8	320-162	(9,10,11)	0.12	0.3	1.3

5.1.13

5.1.14

5.1.13

	1500m	100 m	100m
	1500m	100 m	100m

5.1.14

		X	Y	
1		-1820	3797	5.73
2		-1610	2913	4.01
3		-1581	2268	4.21
4		-1573	2079	4.55
5		-1972	2021	6.35
6		-841	1746	3.58
7		2393	-1451	9.08
8		-479	-1385	3.17
9		-994	3524	6.07
10		-593	3015	6.99
11		-253	2513	61.2
12		1454	3355	97.6
13		1872	2541	75.39

HJ2.2-2018 SO₂ PM₁₀ PM_{2.5}

PM₁₀

2021

5.1.15

5.1.15

1	PM ₁₀		³	2021
			³	36
2	PM _{2.5}		/m ³	2021
			³	21
3	SO ₂		/m ³	2021
			m ³	7
4			³	
5			³	
6			³	
7			³	
			³	

4

PM₁₀

5.1.16 PM₁₀

			³		m ³		
1			0.00E00	211017	150	0.00E+00	
			-1.86E-01		70	-2.66E-01	
2			3.00E-04	210725	150	2.00E-04	
			-2.25E-01		70	-3.21E-01	
3			1.51E-04	210725	150	1.01E-04	
			-2.59E-01		70	-3.70E-01	
4			8.33E-06	210725	150	5.55E-06	
			-2.70E-01		70	-3.86E-01	
5			6.32E-08	210725	150	4.21E-08	
			-2.36E-01		70	-3.37E-01	
6			5.21E-05	210725	150	3.47E-05	
			-3.97E-01		70	-5.67E-01	
7			0.00E00	210117	150	0.00E+00	
			-4.16E-02		70	-5.94E-02	
8			2.90E-03	211204	150	1.93E-03	
			-7.96E-02		70	-1.14E-01	
9			0.00E00	211017	150	0.00E+00	
			-1.91E-01		70	-2.73E-01	
10			0.00E00	211017	150	0.00E+00	
			-2.07E-01		70	-2.96E-01	
11			0.00E00	211017	150	0.00E+00	
			-3.39E-01		70	-4.84E-01	

			-1.99E-01		35	-5.69E-01	
7			0.00E00	210117	75	0.00E+00	
						35	-5.94E-02
8			1.45E-03	211204	75	1.93E-03	
						35	-1.14E-01
9			0.00E00	211017	75	0.00E+00	
						35	-2.73E-01
10			0.00E00	211017	75	0.00E+00	
						35	-2.97E-01
11			0.00E00	211017	75	0.00E+00	
						35	-4.86E-01
12			0.00E00	211003	75	0.00E+00	
						35	-4.40E-01
13			0.00E00	210928	75	0.00E+00	
						35	-1.41E-01
14			8.60E-01	210617	75	1.15E+00	
						35	-4.97E-02

5.1.18

				3		3	
1			0.0002	210424	1	0.02	
2			0.0002	210319	1	0.02	
3			0.0002	210319	1	0.02	
4			0.0002	210721	1	0.02	
5			0.0002	210208	1	0.02	
6			0.0003	210721	1	0.03	
7			0.0002	210813	1	0.02	
8			0.0001	210817	1	0.01	
9			0.0003	210424	1	0.03	
10			0.0003	210424	1	0.03	
11			0.0004	210514	1	0.04	
12			0.0014	211210	1	0.14	
13			0.0002	210723	1	0.02	
14			0.0374	211018	1	3.74	

5.1.19

				3		3
1			9.72E-05			1.60E-05
2			1.04E-04			1.97E-05
3			1.07E-04			2.23E-05
4			1.09E-04			2.34E-05
5			1.25E-04			1.95E-05
6			1.82E-04			3.87E-05
7			1.08E-04			6.94E-06

8		6.82E-05	1.35E-05
9		1.63E-04	1.83E-05
10		1.46E-04	2.04E-05
11		2.04E-04	3.33E-05
12		7.87E-04	6.92E-05
13		8.72E-05	9.01E-06
14		2.15E-02	3.41E-03

5.1.20

			3	3		
1			9.16E-06	0.5	1.83E-03	
2			1.13E-05	0.5	2.26E-03	
3			1.28E-05	0.5	2.56E-03	
4			1.34E-05	0.5	2.68E-03	
5			1.12E-05	0.5	2.24E-03	
6			2.22E-05	0.5	4.44E-03	
7			3.96E-06	0.5	7.92E-04	
8			7.71E-06	0.5	1.54E-03	
9			1.05E-05	0.5	2.10E-03	
10			1.17E-05	0.5	2.34E-03	
11			1.92E-05	0.5	3.84E-03	
12			3.97E-05	0.5	7.94E-03	
13			5.17E-06	0.5	1.03E-03	
14			1.94E-03	0.5	3.88E-01	

5.1.21

			3		3		
1			0.1226	21112708	20	0.61	
			0.0069	210424	7	0.10	
2			0.1158	21113008	20	0.58	
			0.0072	210319	7	0.10	
3			0.1120	21113008	20	0.56	
			0.0076	210721	7	0.11	
4			0.1128	21102708	20	0.56	
			0.0079	210721	7	0.11	
5			0.1119	21113008	20	0.56	
			0.0091	210208	7	0.13	
6			0.1233	21050120	20	0.62	
			0.0134	210721	7	0.19	
7			0.1942	21081307	20	0.97	
			0.0081	210813	7	0.12	
8			0.0724	21100308	20	0.36	
			0.0048	210817	7	0.07	

10		0.1334	21042407	20	0.67	
		0.0105	210424	7	0.15	
11		0.2046	21060305	20	1.02	
		0.0199	211117	7	0.28	
12		1.1328	21100223	20	5.66	
		0.0520	211210	7	0.74	
13		0.1402	21072307	20	0.70	
		0.0064	210723	7	0.09	
14		14.0558	21090623	20	70.28	
		1.6189	211018	7	23.13	

SO₂

5.1.22 SO₂

			³		³	
1		5.86E-05	21051001	500	1.17E-05	
		0.00E00	210913	150	0.00E+00	
		-5.78E-02		60	-9.63E-02	
2		7.84E-04	21011009	500	1.57E-04	
		0.00E00	210913	150	0.00E+00	
		-7.09E-02		60	-1.18E-01	
3		8.29E-05	21021306	500	1.66E-05	
		0.00E00	210913	150	0.00E+00	
		-7.94E-02		60	-1.32E-01	
4		9.10E-05	21021306	500	1.82E-05	
		0.00E00	210913	150	0.00E+00	
		-8.20E-02		60	-1.37E-01	
5		9.01E-05	21110524	500	1.80E-05	
		0.00E00	211017	150	0.00E+00	
		-6.93E-02		60	-1.16E-01	
6		1.25E-04	21040104	500	2.50E-05	
		0.00E00	210913	150	0.00E+00	
		-1.33E-01		60	-2.22E-01	
7		1.24E-04	21082407	500	2.48E-05	
		4.40E-06	210228	150	2.93E-06	
		-1.94E-02		60	-3.23E-02	
8		1.30E-04	21022002	500	2.60E-05	
		1.30E-05	210102	150	8.67E-06	
		-4.18E-02		60	-6.97E-02	
9		7.14E-05	21110522	500	1.43E-05	
		0.00E00	211017	150	0.00E+00	
		-6.61E-02		60	-1.10E-01	
10		7.67E-05	21012422	500	1.53E-05	
		0.00E00	211017	150	0.00E+00	
		-7.43E-02		60	-1.24E-01	
11		0.00E00	21010101	500	0.00E+00	
		0.00E00	211017	150	0.00E+00	
		-1.48E-01		60	-2.47E-01	

12		4.87E-03	21052706	500	9.74E-04	
		0.00E00	211003	150	0.00E+00	
		-1.57E-01		60	-2.62E-01	
13		0.00E00	21010101	500	0.00E+00	
		0.00E00	210928	150	0.00E+00	
		-4.18E-02		60	-6.97E-02	
14		1.10E02	21071121	500	2.20E+01	
		6.17E00	211023	150	4.11E+00	
		4.20E-02		60	7.00E-02	

SO₂ PM₁₀ PM_{2.5}

5.1.23~ 5.1.29

5.1.23

		PM ₁₀			PM ₁₀	
			95% 3	%	3	%
1		2021/3/23	60.4287	40.29	35.7503	51.07
2		2021/2/4	60.1151	40.08	35.6597	50.94
3		2021/3/28	60.0926	40.06	35.5611	50.80
4		2021/3/28	60.1413	40.09	35.5308	50.76
5		2021/3/28	60.1223	40.08	35.5018	50.72
6		2021/3/28	60.0722	40.05	35.5260	50.75
7		2021/1/4	60.9546	40.64	36.6415	52.35
8		2021/1/4	60.2919	40.19	35.7433	51.06
9		2021/3/28	60.466	40.31	35.8539	51.22
10		2021/3/28	60.2582	40.17	35.8989	51.28
11		2021/3/23	60.645	40.43	36.3461	51.92
12		2021/1/13	64.4383	42.96	38.4572	54.94
13		2021/4/12	64.1275	42.75	40.0321	57.19
14		2021/1/11	124.6286	83.09	66.2171	94.60

5.1.24

		PM _{2.5}			PM _{2.5}	
			95% 3	%	g/m ³	%
1		2021/1/18	39.6406	52.85	20.6732	59.07

2

10		2021/12/8	39.6121	52.82	20.7474	59.28
11		2021/1/13	39.8435	53.12	20.9711	59.92
12		2021/3/17	41.145	54.86	22.0266	62.93
13		2021/2/12	41.7051	55.61	22.8141	65.18
14		2021/11/16	68.8668	91.82	33.9491	97.00

5.1.25

			100%	g/m ³
--	--	--	------	------------------

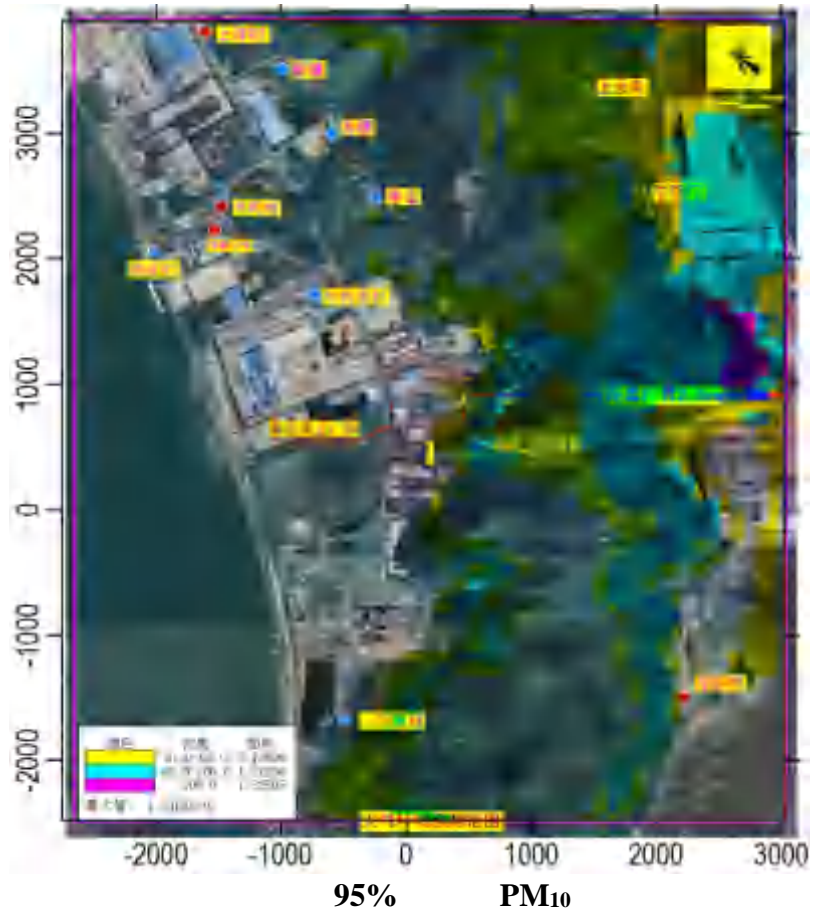
5		0.0003	0.05
6		0.0003	0.06
7		0.0002	0.04
8		0.0002	0.04
9		0.0004	0.08
10		0.0004	0.08
11		0.0004	0.09
12		0.0015	0.29
13		0.0016	0.33
14		0.0192	3.84

5.1.28

			100% g/m ³	%		100% g/m ³	%
1		21091407	0.2691	1.35	210914	0.0202	0.29
2		21092808	0.1589	0.79	210915	0.0118	0.17
3		21090508	0.1576	0.79	211021	0.0126	0.18
4		21102110	0.1556	0.78	211021	0.0124	0.18
5		21090508	0.1466	0.73	211021	0.0113	0.16
6		21012410	0.1717	0.86	211021	0.013	0.19
7		21040308	0.2496	1.25	210310	0.0148	0.21
8		21051607	0.1751	0.88	211113	0.0144	0.21
9		21072707	0.2083	1.04	210914	0.0186	0.27
10		21030510	0.1961	0.98	211225	0.0144	0.21
11		21030510	0.2035	1.02	211225	0.0153	0.22
12		21012609	0.2382	1.19	210201	0.0436	0.62
13		21022511	0.2749	1.37	210325	0.0541	0.77
14		21041219	7.04	35.2	210102	0.4474	6.39

5.1.29

		SO ₂			SO ₂	
			98% 3	%	3	%
1		2021/6/26	19.3227	12.88	8.6456	14.41
2		2021/6/26	19.2032	12.80	8.5809	14.30
3		2021/7/8	19.1936	12.80	8.5309	14.22
4		2021/7/8	19.2492	12.83	8.5185	14.20
5		2021/7/8	19.2434	12.83	8.5050	14.18
6		2021/7/8	19.3709	12.91	8.5037	14.17
7		2021/7/12	19.8956	13.26	8.8498	14.75
8		2021/7/8	19.2743	12.85	8.5317	14.22
9		2021/6/26	19.3654	12.91	8.6935	14.49
10		2021/6/26	19.3294	12.89	8.7081	14.51
11		2021/7/8	19.3123			



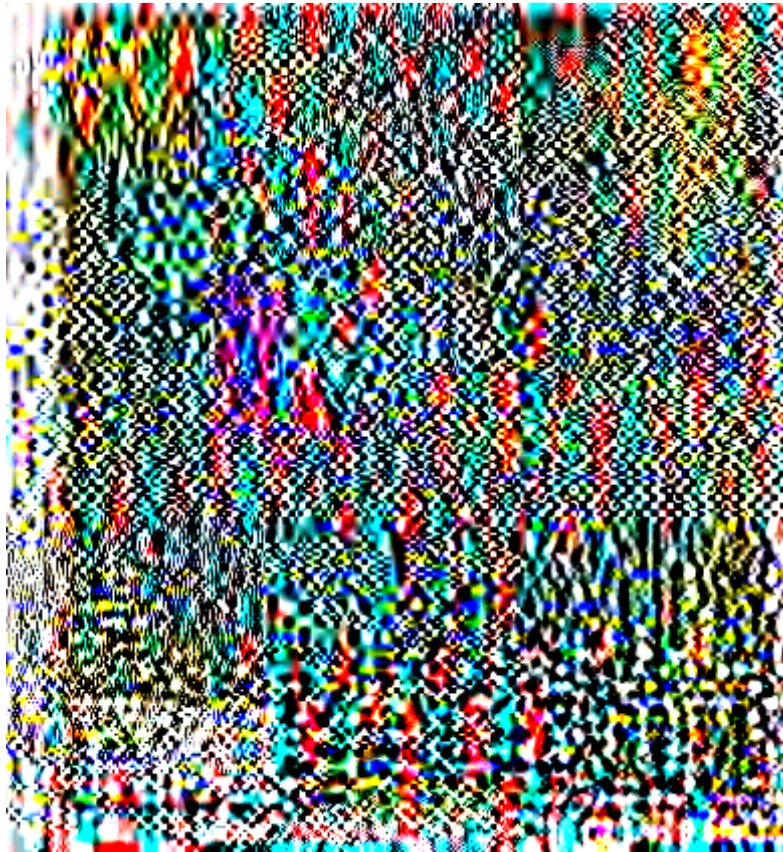
5.1-3

3

5.1-4

100% PM₁₀

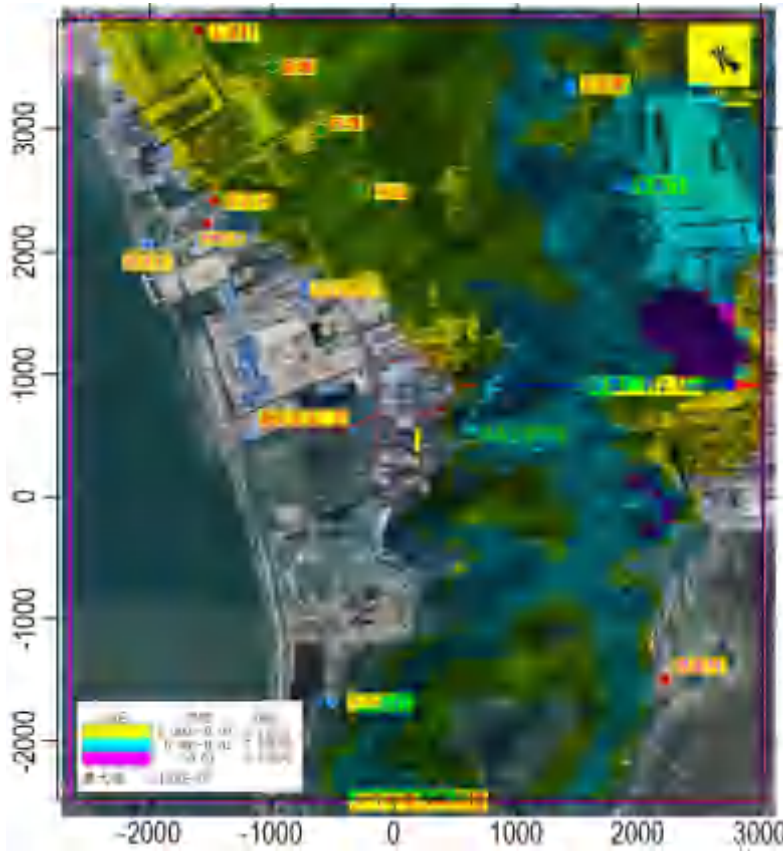
3



5.1-5

100%

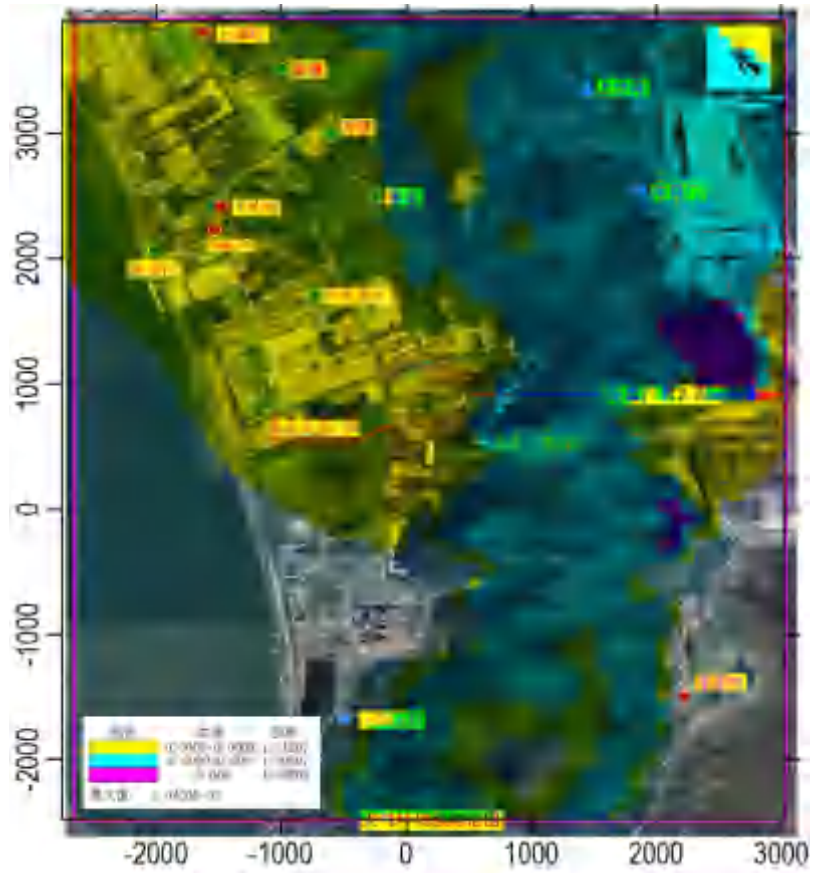
3



5.1-6

100%

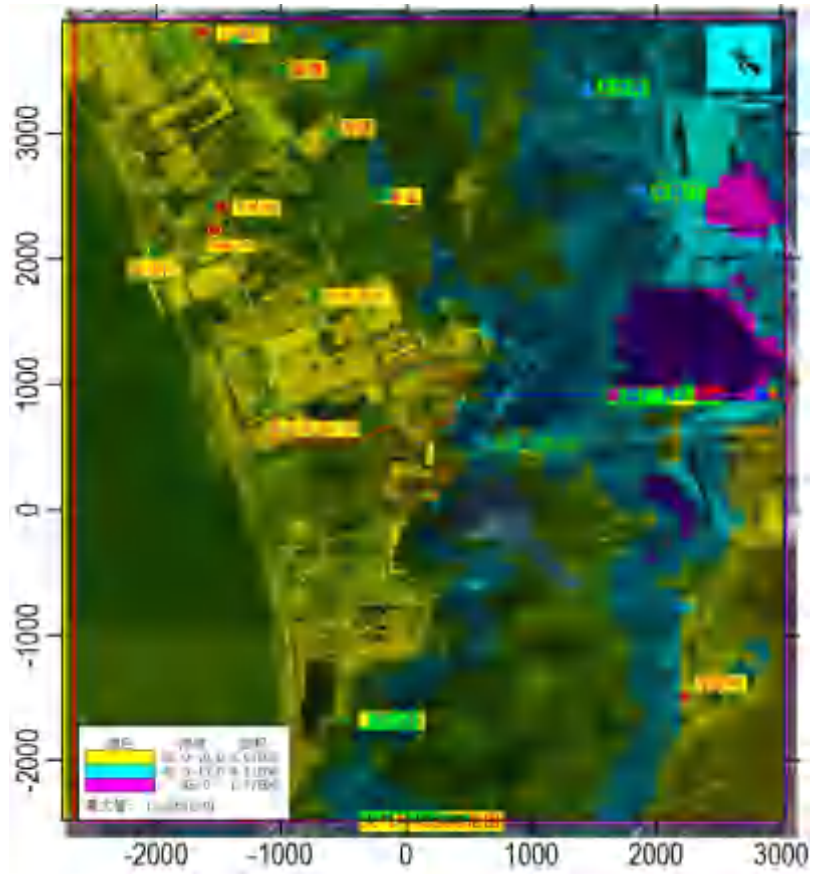
3



5.1-7

100%

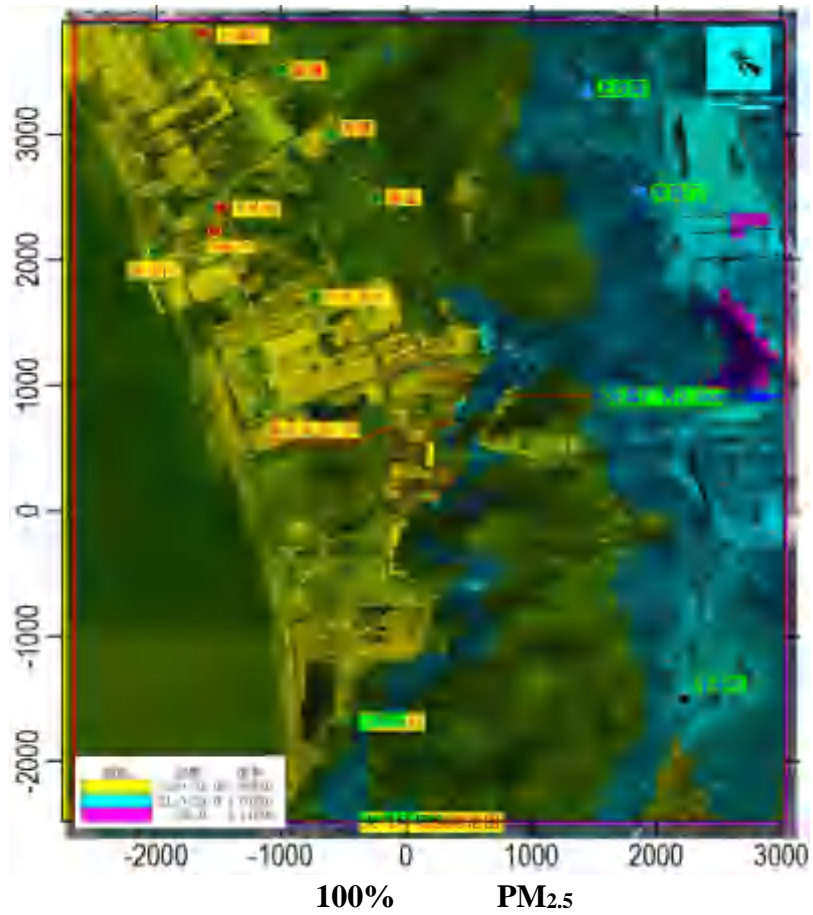
/m³



5.1-8

95% PM_{2.5}

3



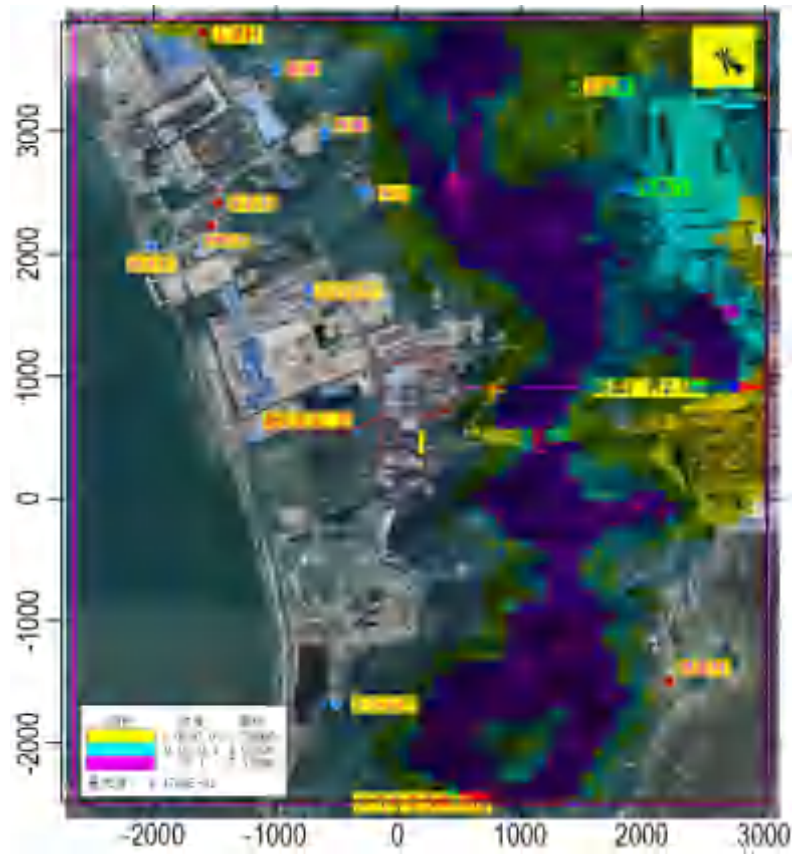
5.1-9

3

5.1-10

100%

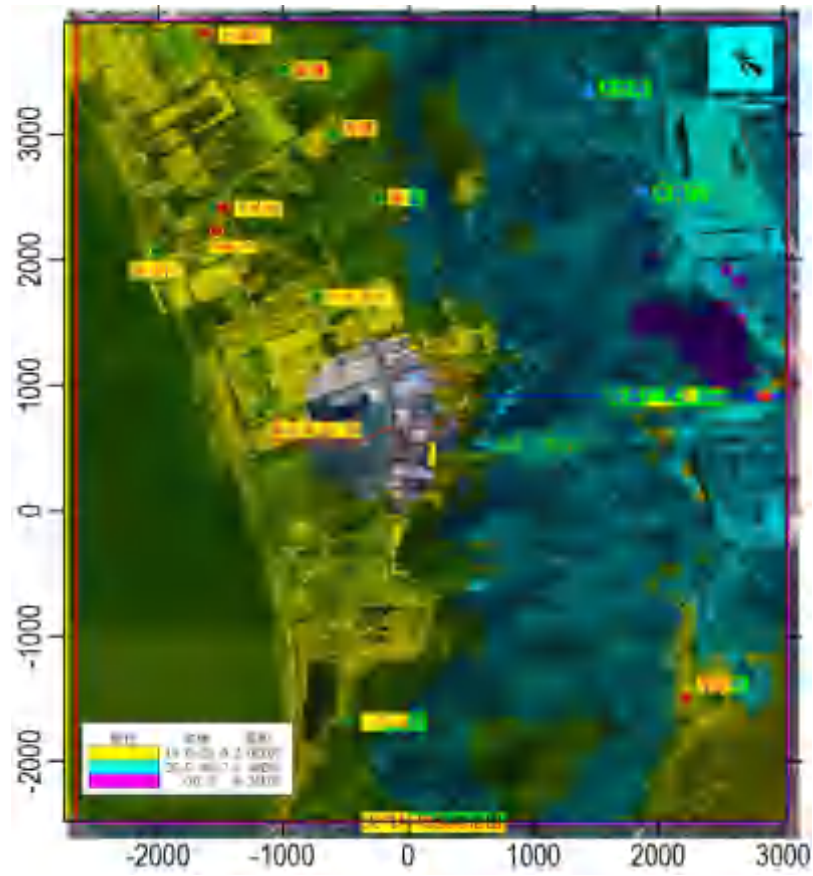
3



5.1-11

100%

3



5.1-12

98% SO₂

3

5.1-13

100%

SO₂

3

5.1.2.3

LF

50%

3.2.4.2

PM₁₀

217.70%

5.1.2.4

2016~2021

PM₁₀

2016~2021

PM₁₀

GB3095-2012

TSP

(GB3096-2012)

5.1.2.5

HJ2.2-2018

8.7.5

PM₁₀

148m

148m

20

10

50

1km

1km

460m

980m

1020m

850m

2017

32

234

233

10

2009

13

5.1-14

5.1.2.6

5.1.28

			/mg/m ³	/kg/h	/t/a
1	2		10	3.12	22.44
			50	15.58	112.18

1	LF		10	0.3	1.296
			m ³	0.3 g/h	1.296 kg
			³	0.15 g/h	0.648 kg
			³	0.09 g/h	0.389 kg
			0.17	0.009	0.008
2	VOD		10	0.02	0.086
			³	0.02 g/h	0.086 kg
			³	0.01 g/h	0.043 kg
			³	0.006 g/h	0.026 kg
			1.94	0.004	0.02
3			10	0.72	5.20
			50	3.61	25.98
4	1# ()		10	7.22	52.02
5	2#		10	3.35	24.10
6	3# 4#		10	6.12	44.08
7	3#~5#		10	5.78	41.60

5.1.29

1	t/a	259.92
2	SO ₂ t/a	447.484
3	NO _x t/a	923.948
4	t/a	5.048
5	t/a	1.635
6	t/a	9.741
7	kg/a	772.3
8	kg/a	249.3
9	kg/a	76.01

5.1.3

1

2021

100%

30%

2

3

4

1km

460m

980m

1020m

850m

2017

32

234

233

2009

13

5

HJ2.2-2018

10.1.1

		=50km	=5 50km		=5km		
	SO ₂ +NO _x	2000t/a	500~2000t/a		<500t/a		
	TSP	SO ₂	NO ₂	CO	PM ₁₀	PM _{2.5}	PM _{2.5}
					D		
		2021					

		AERMOD	ADMS	AUSTAL2000	EDMS/AEDT	CALPUFF	
		50km		5 50km		=5km	
		SO ₂ PM ₁₀ PM _{2.5}			PM _{2.5} PM _{2.5}		
		C		100%		C >100%	
			C	10%		C >10%	
			C	30%		C >30%	
	1h	2 h		C 100%		C >100%	
		C			C		
		k -20%			k>-20%		
		PM ₁₀	SO ₂ NO ₂				
					1		
		1000 m					
	()	SO ₂ :(447.84)t/a		NOx:(923.948)t/a		:(259.92)t/a	VOCs:()t/a

5.2

5.2.1

1

COD BOD₅ SS NH₃-N

25

100L/

80%

3

2

10

1

2h

0.8t

5.2.2

5.2.2.1

VOD

1 VOD

VOD

SS +
VOD

2

pH SS COD +

3

VOD LF

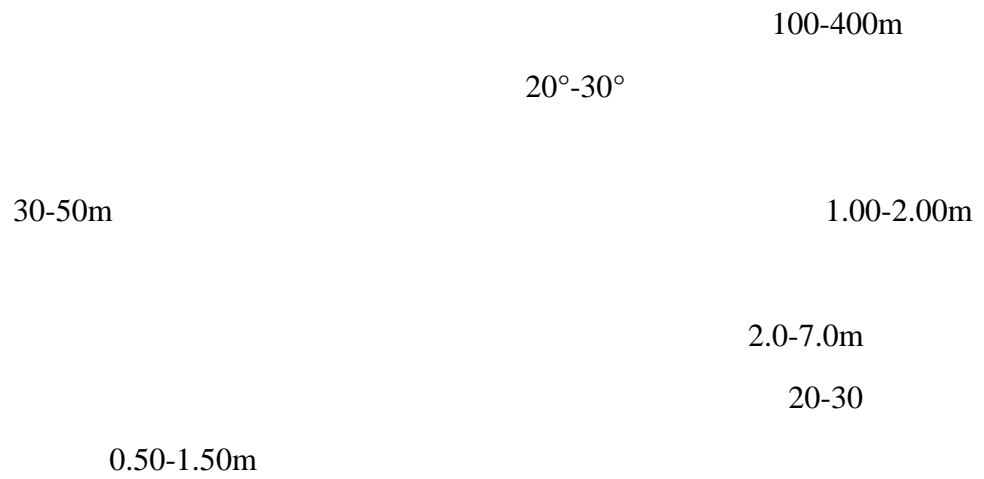
5.2.2.2

5.2.2.3

5.3

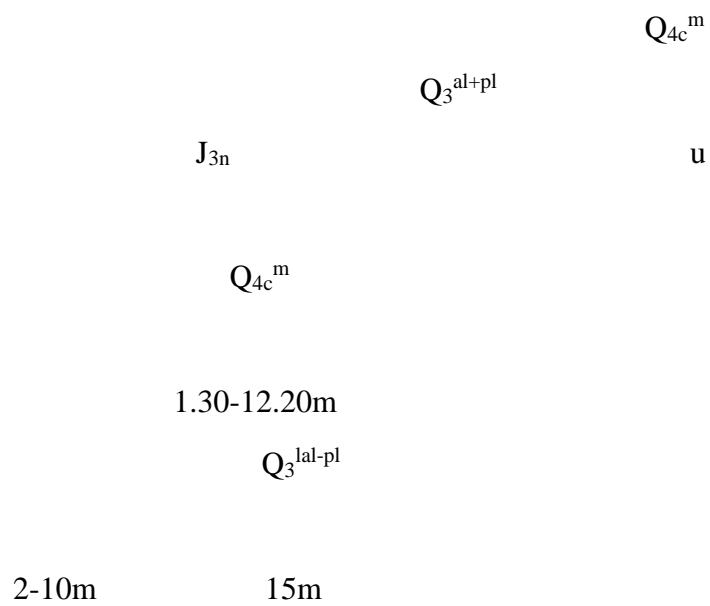
5.3.1

5.3.1.1



5.3.1.2

1



Q^{pel-pl}

3

53

J_{3n}

3m

-

2-10m

2

1:20

1

355

80

5km 2

,

330

75

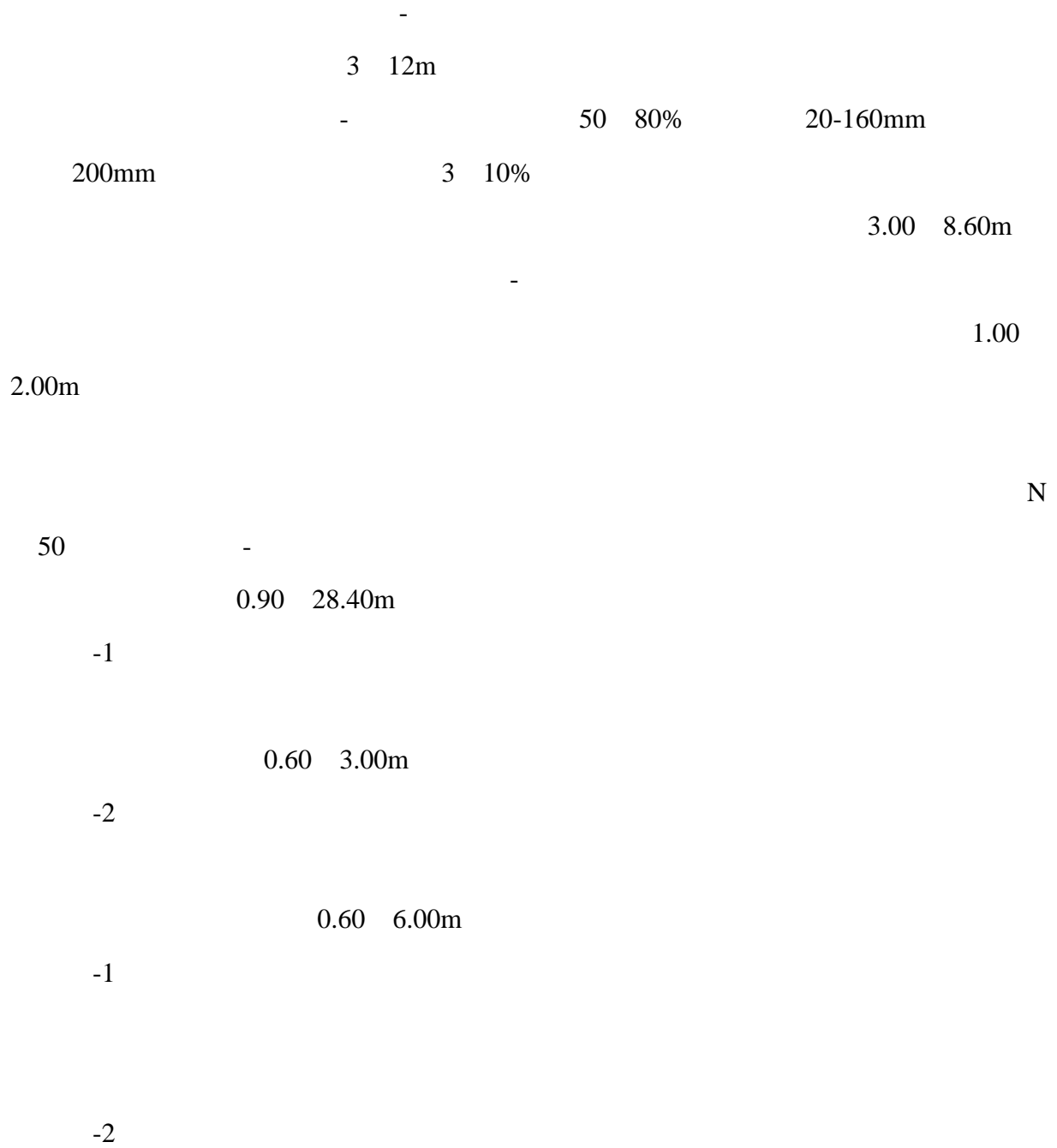
5km

3

10-35%

10cm

3.0-7.0m



5.3.1.3

1

V

50-300m³/d

1.80km²

10-

5.3-1

1 1000

5.3.1.4

3.0-10.0m

5.3.1.5

6
 10^{-5} cm/s

2.13 10^{-4} -4.57

4.31 10^{-5} -5.62 10^{-6} cm/s

3.52 10^{-4} -8.76 10^{-5} cm/s

3 10^{-7} cm/s

5.3.1.6

5.3.1.7

1

0.6-1.0m 3-5m³/d 1.50-1.80m

2

2m

5.3.2

VOD

1

100m

570m

285m

2

HJ610-2016

100

1000

3

5% $400\text{m}^2 \times 5\% = 20\text{m}^2$

400m²

5% 20m² 60

$$Q = K \cdot I \cdot A$$

K 0.39m/d

A 20m²

I 0.02

0.16m³/d

COD 200mg/L

$$\text{COD } 0.16\text{m}^3/\text{d} \times 200\text{mg/L} \times 10^{-3} = 0.03\text{kg/d}$$

4

COD

GB/T14848-2017 COD 7.5mg/L COD_{Mn}

3mg/L COD_{Mn} COD 1 2.5

GB 11892-1989 COD_{Mn} 0.5mg/L

5.3.1

COD _{Mn}	0.5mg/L	GB 11892-1989	3mg/L

5

A.

B.

60

C.

HJ 610-2016

D

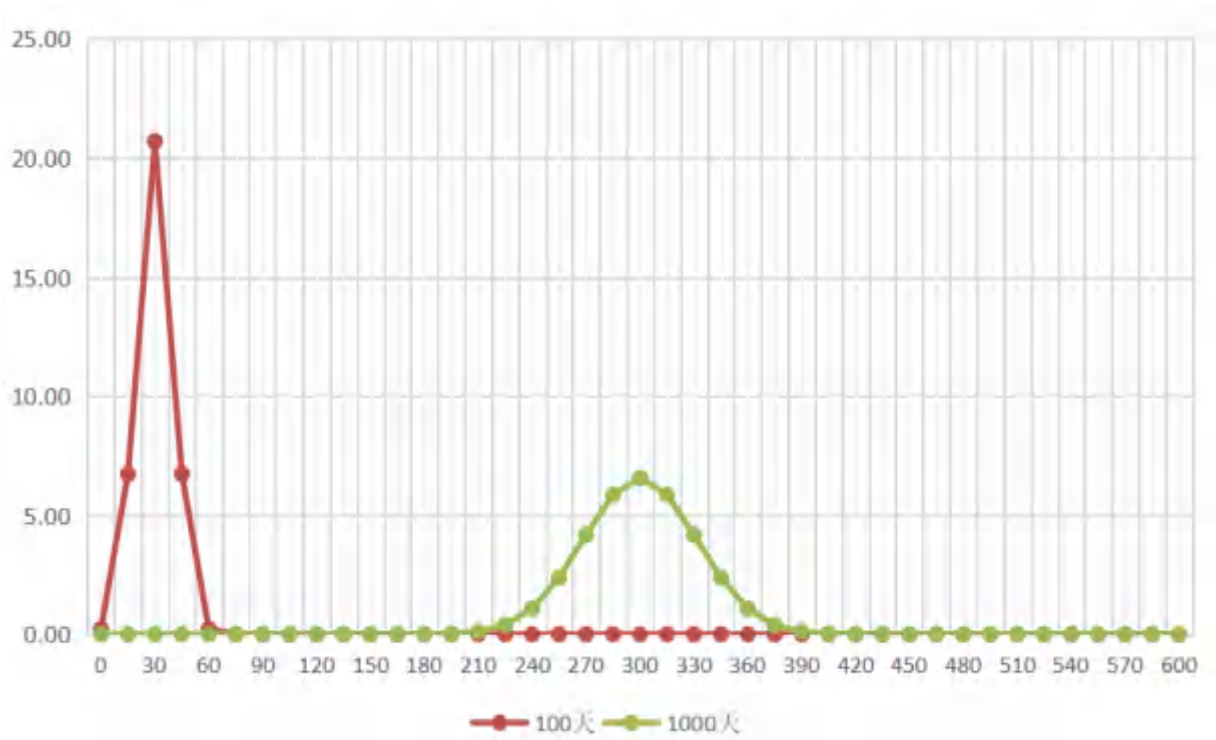
$$C(x,t) = \frac{m \cdot w}{2n \sqrt{\pi D_L t}} e^{-\frac{(x-w)^2}{4D_L t}}$$

	x		m		
t	d				
C _{x,t}	t	x	mg/L		
m		kg	COD	0.03kg	
n					0.3
u	m/d	u=KI/n	u=KI/n=0.03m/d		
DL		m ² /d			
	DL=0.5m ² /d				
7					
			100	1000	
COD	5.3.2	5.3-2			

5.3.2

COD

X(m)	100 mg/L	1000 mg/L
x	100	1000
0	0.23	0.00
15	6.73	0.00
30	20.70	0.00
45	6.73	0.00
60	0.23	0.00
75	0.00	0.00
90	0.00	0.00
105	0.00	0.00
120	0.00	0.00
135	0.00	0.00
150	0.00	0.00
165	0.00	0.00
180	0.00	0.00
195	0.00	0.03
210	0.00	0.11
225	0.00	0.39
240	0.00	1.08
255	0.00	2.38
270	0.00	4.18
285	0.00	5.86
300	0.00	6.56
315	0.00	5.86
330	0.00	4.18
345	0.00	2.38
360	0.00	1.08
375	0.00	0.39
390		



5.3-2 COD

	COD	100d	1000d	
	20.7mg/L	6.56mg/L	30m	300m
				GB/T 14848-2017
COD	III	7.5mg/L	5.3.2	COD
	100dCOD	44m	1000d	

5.3.3

1

HJ610-2016

2

3

(HJ610-2016)

5.3.3

5.3.4

(HJ610-2016)

6.0m

1.0 10^{-7} cm/s

(GB18597-2023)

1m

(10^{-7} cm/s

2mm

2mm

10^{-10} cm/s)

(HJ610-2016)

1.5m

1.0 10^{-7} cm/s

(GB18599-2020)

1.5m

10^{-7} cm/s

(GB18599-2020)

6.2.1

(HJ610-2016)

5.3.3

				6.0m K Mb 10^{-7} cm/s
				1.5m K Mb 10^{-7} cm/s

5.3.4

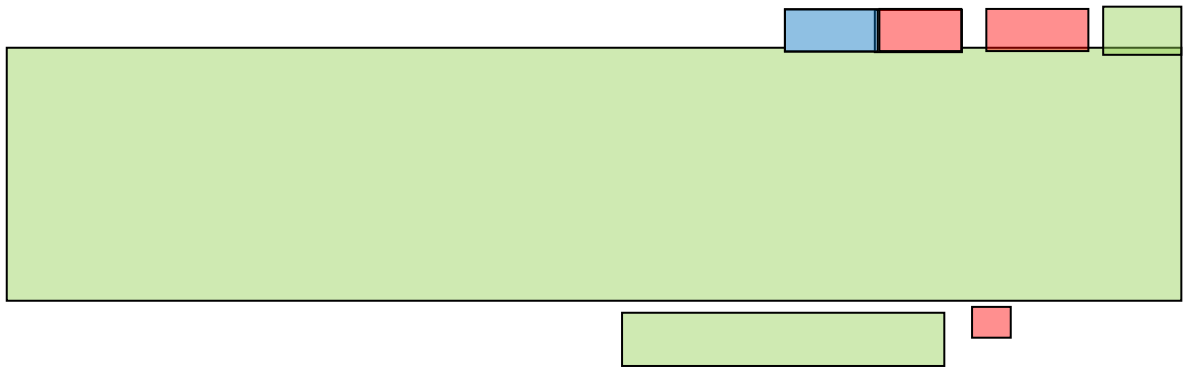
1	VOD	
2		
3		
4		
5	VOD LF	

4

5

pH SS COD

5



5.3-3

5.4

5.4.1

5.4.1.1

150m

GB12523-2011

420m

5.4.2

5.4.2.1

VOD

85~120dB

3.2.16

5.4.2.2

A

200m

5.4.2.3

HJ2.4-2021

A

5.4.2

dB A

1#	52.8	65	55		
2#	57.3	65	55		
3#	61.2	65	55		
4#	58.1	65	55		

5#	55.4	65	55		
6#	53.8	65	55		
7#	54.3	65	55		
8#	63.2	65	55		
9#	64.7	65	55		
10#	64.8	65	55		
11#	63.9	65	55		
12#	53.0	65	55		
13#	53.1	65	55		
14#	62.5	65	55		
15#	62.0	65	55		

5.4.2

52.8dB~64.8dB

GB12348-2008

3

1# 6# 7# 12# 13#

GB12348-2008

3

5.4.3

1

52.8dB~64.8dB

GB12348-2008

3

1#

6# 7# 12# 13#

GB12348-2008

3

2

5.5

5.5.1

5.5.1.1

5.5.1.2

25

1kg

25kg/d

5.5.2

VOD

5.5.1

3.2.17

3.2.18

5.5.1

		t/a	t/a				
		122137	125960.2	FeO	Ni	SiO ₂	MgO

		165350	165422.71		
		105	125	Ni Co	

5.5.3

GB18597-2023

1

HJ 1276

2 HJ 1259

3

3

4

5

6

1

m

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

2 mm

7

8

1/10

1

2

5.5.4

5.5.4.1

GB18599-2020

GB18597

GB18597-2023

2.8.1

1

GB18597

2

3

5.5.4.2

5.6

5.6.1

5.6.1

5.6.2

5.6.1

5.6.2

				(TM 7 7		a	a
--	--	--	--	---------	--	---	---

5.6.2.4

GB 36600-2018

5.6.3

5.6.2.5

HJ 964-2018

E

1

$$\Delta S = n(I_s - L_s - R_s) / (\rho_b \times A \times D)$$

S

g/kg

mmol/kg

I_s

g

mmol

L_s

g

mmol

R_s

g

mmol

ρ_b

kg/m³

A

m²

D

0.2m

n

a

2

$$S = S_b + \Delta S$$

S_b

g/kg

S

g/kg

5.6.2.6

5 10 20

5.6.3

mg/kg

			5		10		20	
	900	110.46	7.14×10^{-3}	110.47	1.43×10^{-2}	110.47	2.86×10^{-2}	110.49
	5.7	/	2.38×10^{-3}	/	4.76×10^{-3}	/	9.53×10^{-2}	/
	800	120.44	7.20×10^{-4}	120.44	1.40×10^{-3}	120.44	2.88×10^{-3}	120.44

20

2.86×10^{-2} mg/kg

9.53×10^{-2} mg/kg

2.88×10^{-3} mg/kg

GB

36600-2018

GB 36600-2018

5.6.2.7

(GB36600-2018) 1

5.6.3

1

2

		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		/	/	/		
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
		a <input checked="" type="checkbox"/>	b <input checked="" type="checkbox"/>	c <input checked="" type="checkbox"/>	d <input checked="" type="checkbox"/>	
		/				
			1	5	0~0.5m	
			3	0	0~0.5m、 0.5~1.5m 1.5~3m	
		45	pH			4.6-1
		GB 15618 <input type="checkbox"/>	GB 36600 <input checked="" type="checkbox"/>	D.1 <input type="checkbox"/>	D.2 <input type="checkbox"/>	
		GB36600-2018				
		E <input checked="" type="checkbox"/>	F <input type="checkbox"/>			
		/				
		/				
		a <input checked="" type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>		
		a <input type="checkbox"/>	b <input type="checkbox"/>			
		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
			pH			

				1 /	
				1 /3	
		/			
		(GB36600-2018)			
	1	<input type="checkbox"/>			
	2				

5.7

5.7.1

	2021	2022	3
1	1010920.70tCO ₂ e		
2	2123537.94tCO ₂ e		

5.7.2

	2021	2022	3
--	------	------	---

5.7.2.1

1	15	1.0%	VOD
LF	0.03%		1.0%
0.03%			
2	LF	VOD	

5.7.2.2

1		0.05%	15	
0.03%	15			150000
0.05%-0.03%	44/12=110tCO ₂ /a			
2				
			CO ₂	
E	=AD	×EF	+AD	×EF
E			CO ₂	tCO ₂
AD	AD			
MWh	GJ			

EF EF
tCO₂/GJ

CO₂

tCO₂/MWh

5.7.1

CO₂

	MWh	CO ₂ * tCO ₂ /MWh	tCO ₂
	A	B	C=A*B
	262500	0.5810	152512.5
	/	/	/

2022

2022 111

5.7.2.3

$152512.5 + 110 = 152622.5 \text{tCO}_2$

5.7.3

1	1011030.7tCO ₂	110tCO ₂
2	2276160.44tCO ₂	152622.5tCO ₂

5.7.4

2019

2015

5.7.5

1

2

- a)
- b)
- c)
- d)
- e)

1

3

1

5.7.6

1

2

3

4

5

180-200

80kg

40000t

2.0MPa

6 VOD

7

8

M-EMS

9

10

CCM

11

12

97%

13

14

15

GB20052-2020

2

16 0.4kV

0.92

17

18

5.7.7

2021

2022 3

2123537.94tCO₂

152622.5tCO₂

2276160.44tCO₂

6

2012 77

2012 98

HJ169-2018

6.1

6.1.1

1

15

VOD

LF

2

1 75 LF

1 75 VOD

LF

VOD

CO

6.1.2

HJ169-2018 B B.1 B.2 Q
 B GB18218-2018
 Q Q
 Q

$$Q = \frac{q_1}{Q_1} + \frac{q_2}{Q_2} + \dots + \frac{q_n}{Q_n}$$

q₁ q₂ q_n t
 Q₁ Q₂ Q_n t
 Q 1 I

Q 1 10 2 Q 100 3

Q 1

I

6.1.3

HJ169-2018

6.1.1

6.1.1

	IV IV+	III	II	I
				a
a	HJ169-2018			A

I

6.2

6.2.1

6.2.1 1.7-1

6.2.1

			m		
		NW	1500	2234	
		NW	420	350	
		NW	1700	644	
		NW	1400	1000	
		NW	1900	10000	
		SE	2300	2280	
		S	1700	260	
		NW	3000	1660	
		NE	2290	30	
		NE	1190	94	
		N	1095	40	
	500m			350	
				24h	
				/km	
	1			/	
					/m
	1	/	/	/	/
	/	/	/	/	/

6.3

6.3.1

HJ169-2018

CO

1

6.2.2

6.2.2

6.4.3

6.5

6.5.1

350981-2021-025-H

1

2

3

CO

CO

CO

4

5 CO

a.

b.

c.

d.

15min

2

3

4

1

2

3

4

5

6

7

8

1

2

3

4

6.5.1

1		GB/T18664	30	

2		GB/T18664	37	
3		8kg	400	
4		35kg	170	
5			90	
6			90	
7			40	
8			100	
9			200	
10		10w	2	/
11			2	
12			10	
13			3	
14			10	
15			10	
16			80	
17	CO	CO	80	
18	SO2	SO2	2	
19			1000	
20			1	
21			3	
22			2	
23			2	
24			5000	
25			200	
26			100	
27			40	
28				
29			50	
30			50	
31			31	
32			28	
33			7	
34			17	
35			4	
36			1	
37			2	
38			2	
39	10		4	
40			6	
41			3	
42			2	
43			6	
44			24	
45			55	
46			34	

47			36	
48			49	
49			200	
50			200	
51			30	
52			4500	
53			800	
54			100	

6.5.2

1 75 LF

1 75 VOD

350981-2021-025-H

5800m³

22700m³

5800m³

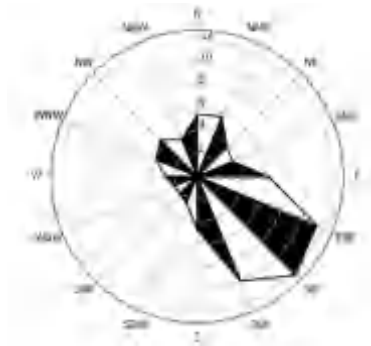
6.5-1

1

2

3

4



6.5-1

6.5.3

6.5.3.1

1

()

2

()

3

6.5.3.2

1

2

3

6.5.4

350981-2021-025-H

(2015 4)

HJ169-2018

6.6

HJ169-2018

I

6.6.1

6.6.1

		119.740671	26.768585
	1 LF VOD		2
		3	CO
	/		
	CO		

	<p style="text-align: center;">LF VOD VOD</p> <p style="text-align: center;">VOD</p> <p>1 43 LF 1 43 LF</p>
	<p style="text-align: right;">1 75 LF</p> <p>1 75 VOD</p> <p>5800m³ 5800m³</p> <p>1</p> <p style="text-align: center;">()</p> <p>2</p> <p style="text-align: center;">()</p> <p>3</p> <p>1</p> <p>2</p>

	3 350981-2021-025-H (2015 4) HJ169-2018
I	HJ169-2018

7

7.1

7.1.1

1

1.8m

2000 /100cm²

2

3

18352.1-2001)

IV

GB14762-2008

GB18352.3-2005

GB17691 2005

GB

III

7.1.2

1

Ä2

2

3

4

(GB12523 2011)

22 00 06 00

12 00 14 30

200

5

75t

7.2.1

7.2.1

1	VOD	VOD	1 43
2	LF	LF	1 43

VOD

VOD

1 43

10mg/Nm³

/m³

/m³

/m³



VOD

7.2-1 VOD

LF

LF

1 43

10mg/Nm³

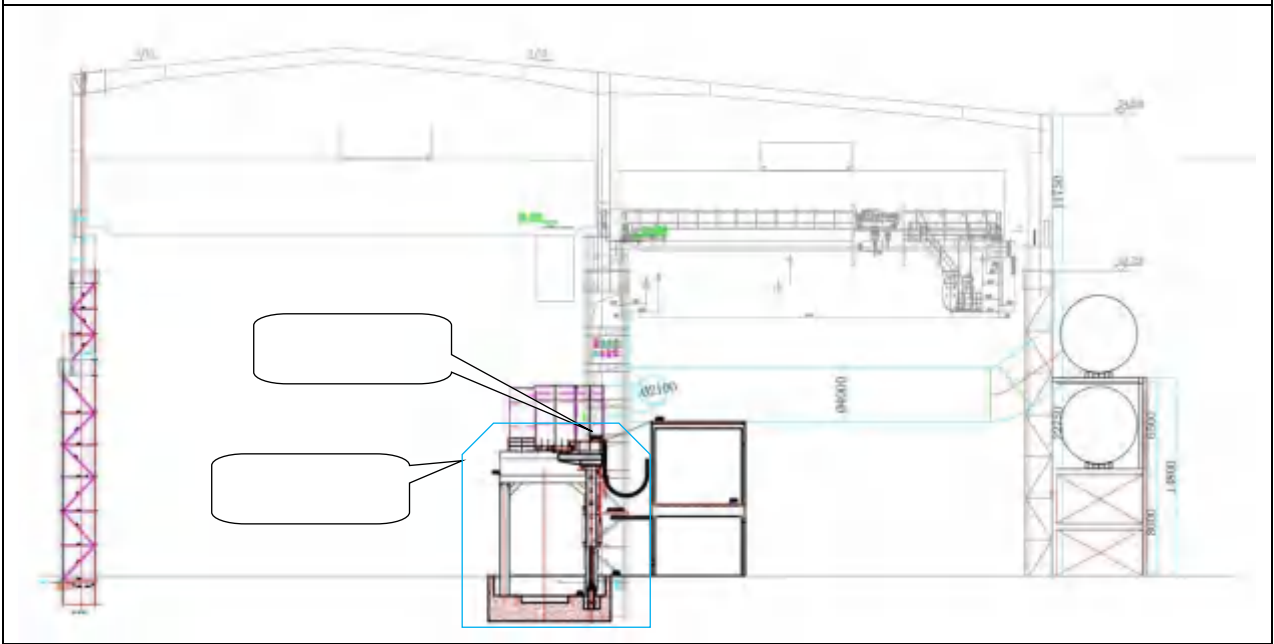
/m³

/m³

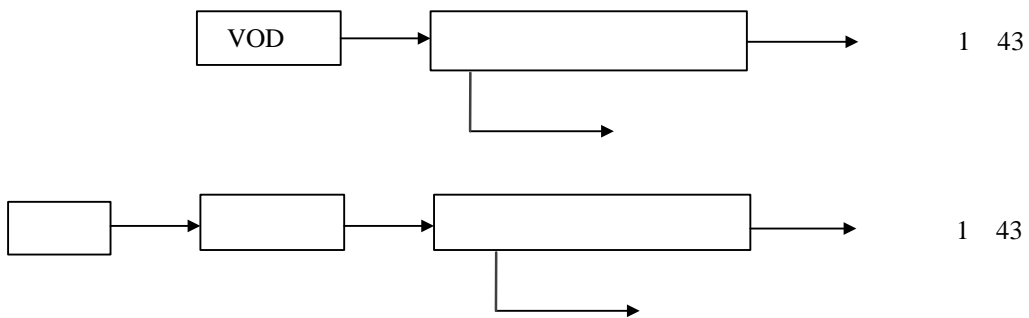
/m³



LF



7.2.-2 LF



7.2-3 VOD LF

99.7%

10²~10⁶mg/m³

200m³/h ~10⁶m³/h

99.998%

99.98%

7.2.2

	Pa	23.0	92.0	
	Pa	720.6	339.7	
		99.981	99.998	
	%	28.6	72.7	
		44 18	23 19	
		1 57	6 35	

50

10mg/m³

VOD LF

HJ 1117-2020

GB28666-2012

5

7.2.2

7.2.2.1

1

2

7.2.2.2

VOD

1 VOD

VOD

SS +
VOD

2

pH SS COD +

3

VOD LF

7.2.2.3

7.2.2.4

1

+

2

(CPVC)

(CPVC) PVC

PVC

PVC

3

4

5

6

2 /

7.2.2.5

7.2.3

7.2.4

LF VOD

30km/h

10dB

15~30dB(A)

7.2.5

5.5

7.2.6

7.3

18000

590

3.28%

7.3.1

7.4

3.28%

7.3.1

						(/)
						100 10
1	VOD	1	2000Nm ³ /h VOD	1	43	50 5
2	LF	1	LF	1	43	50 5
						270 27
1	VOD	1	100m ³ /h			50 5
2		1	400m ³ /h			200 20
2		/				20 2
		/				100 30
						/ /
1		/				/ /
						100 20
						10 /
1						10 /
						10 2
						590 89

8

8.1

		177304.00	,	2950.04
2212.53		1965.13		15.90
		16.55%		5.7
	ic =10%	8444.9		13.23%
6.7			ic 10%	3922.4

8.2

1

2

8.3

1

2

9

9.1

3

1

2

3

4

2.8.1



9.2

COD

SO₂ NO_x

AS2099P6

9.2.1



	HJ-4		
PH	PHSJ-3F		
-X	MXF-2400		

9.3

9.3.1

HJ 1117-2020

HJ846-2017

91350981671942576Q

736

48

2019

2017 84

5

9.3.2

682

[2017]4

2018 9

5

20

9.3.3

2018

11

2015 163

1

2

3

9.3.4

HJ 1117-2020

HJ 846-2017

HJ

878-2017

HJ1035-2019

9.4

9.4.1~ 9.4.3

9.4.1

		t/h					mg/L
				mg/L	t/a		
		89.04	CODcr	22.0	30		30
			SS	161.4	220		15
		577.08	pH	8~10	-		-
			CODcr	30	409.07		30
		1893.83	SS				

				SS	49	38.98		26		
					0.35	0.28		0.25		
					0.14	0.11		0.01		
			150	pH	~2			7~9		
				COD	300	324		30		
				SS	80	86.4		30		
					30	32.4		10		
						86.4				
						21.6				
						37.8				
						0.54		0.05		
					3.24		0			
			2.7	pH	~2			7~9		
				COD	300	5.83		30		
				SS	80	1.56		30		
					30	0.58		10		
						0.39				
						0.68				
					0.01					
		2	4	pH	1.1~1.5	-		6~9		
					COD	44	1.3		44	
					SS	190	5.5		190	
						0.01	-		0.01	
						0.042	0.001		0.042	
						5.075	0.1		5.075	
						0.01	-		0.01	
						0.012	0.003		0.012	
						5.952	0.2		5.952	
						18.75	0.54		0.054	
				0.035	0.001		0.007			
			0.5	COD	240	0.86		30		
				BOD ₅	80	0.29		20		

			SS	230	0.83		15	
		0.25	COD	240	0.52	+	30	
			BOD ₅	80	0.17		20	
			SS	230	0.50		15	
		0.21	COD	100	0.15		30	
				20	0.03		5	
			SS	500	0.76		70	
				80	0.12		5	
				10	0.02		1	
		62.5	COD	100	-		20	

					0.0003	0.0027	1055.4t/a		50mg/m ³ 200mg/m ³ GB25467-2010 5 GB 28666-2012 5
G1-2 DA017	1#	63324		1.9	30				(DB35/1311-2013) 2
G2-2 DA018	1	390422		2.48	6.35				[2019]35 2 10mg/m ³ 50mg/m ³ 200mg/m ³ GB25467-2010 5 GB 28666-2012 5
				7.49	19.18				
				52.54	134.58				
				0.2	0.51				
				0.02811	0.072				
				0.00976	0.025				
				0.0013	0.0022				

G2-1 DA020	2#	57493		1.7	30		(DB35/1311-2013) 2
G2-3 DA019	2	311600		3.12	10		
				15.58	50	/ -	
				47.92	153.8	/	
				0.1	0.15		
				0.036	0.054		
				0.0127	0.019		
G2-4 DA023	1# ()	722466		7.22	10		[2019]35 2 10mg/m ³ 50mg/m ³ 200mg/m ³
				3.1	5.0		
				0.1	0.2		
				0.29	0.4		
				0.0289	0.04		
G2-5 DA021	2#	334755		0.003	0.004		GB25467-2010 5
				3.35	10		
				3.3	10.0		
				0.17	0.50		
				0.0005	0.0016		
G2-6 DA022	3# 4#	612238		0.0013	0.004		28666-2012 5 GB
				6.12	10		
				3.06	5		
				0.31	0.5		
				6.73g/h	³		
3#~5#		577762		3.91g/h	6.39 ³		
				5.78	10		
				2.89	5		
				0.29	0.47		
				6.36g/h	³		
	3.69g/h	6.39 ³					

	G3-2-2	2	42853		0.486	11.3			
					0.0002	0.005			
	G3-2-3	3	17834		0.357	8.323			
					0.0001	0.005			
	G3-3 DA002		70000		0.42	6			
					2.814	40.2			
				NO _x	10.5	150			
					0.00455	0.065			
	G3-4-1 DA010	1	6241		0.114	18.3			
					0.215	34.5			
				NO _x	0.147	23.6			
					0.0001	0.015			
	G3-4-2 DA011	2	6241		0.114	18.3			
					0.215	34.5			
				NO _x	0.147	23.6			
					0.0001	0.015			
	G3-4-3 DA012	3	6241		0.114	18.3			
					0.215	34.5			
				NO _x	0.147	23.6			
					0	0.015			
	G3-4-4 DA013	4	6241		0.114	18.3			
					0.215	34.5			
				NO _x	0.147	23.6			
					0	0.015			
	G3-4-5 DA014	5	5807		0.069	11.8			
					0.107	18.5			
				NO _x	0.058	10			
					0.001	0.12			
	G3-5-1 DA004	1	3588		0.018	4.9			
	G3-5-2 DA006	2	3588		0.018	4.9			
								/	GB16297-1996 2
								+ Na2S	+ 2 GB28665-2012

	G3-5-3 DA008	3	3588		0.018	4.9			
	G3-6-1 DA005	1	5233		0.044	8.4			
	G3-6-2 DA007	2	5233		0.004	0.8			
	G3-6-3 DA009	3	5233		0.044	8.4			
					0.004	0.8			
					4.75	125.0			
	2 DA024		12500		0.646	17.0			GB26132-2010 5
	DA028		6000		0.09	15			
	DA029		5000		0.015	3			+ Na ₂ S
				0.25	50				
				0.0025	0.5				
									3

9.4.3

			GB12348-2008 3	GB12348-2008 3	
			t/a		
			450000		
			1894		
			25		
			300		
			10		
			15		
			150		
					1510401
					125960.2
					4377
			100		
			30		
			15		
			264		
			9100		
			50		
			1500		
			5000		
			2300		
			200		
			400		
			150		

			10000		
			14.5		
			2		
			15127		
			2		
			150295.71		
			4205		
			4.3		
			12000		
		SCR	10m ³ /5		
			2000		
			3.1		
					GB18597-2023

9.5

9.5.1

9.5.2

GB12523-2011

4 6

2

2

A

9.5.3

HJ1117-2020

HJ846-2017

HJ 878-2017

HJ1121-2020

HJ1034-2019

HJ819-2017

HJ164-2020

HJ1209-2021

9.5.1

9.5.1

9.5.1					
		G1-1(DA015)		HJ1117-2020	
			1 /		
		G1-2(DA017) 1#			1 /
		G1-3(DA016)			1 /
		G2-2(DA018) 1			1 /
					1 /

G2-1(DA020)
2#

1

	DA029		1 /	
	DA024		1 / *	HJ1035-2019
			1 / *	
			1 / *	HJ1117-2020
			1 / *	HJ846-2017
			1 / *	HJ1117-2020
			1 / *	HJ1121-2020
			1 / *	
			1 / *	HJ1034-2019
		pH SS COD	1 /	HJ846-2017
		pH SS	1 /	
		pH SS BOD ₅ COD	1 /	
		pH SS COD	1 /	
		pH		
		pH SS COD	1 /	
	23	A	1 /	HJ 878-2017

* 5

1

2

3

4

9.6.2

1

COD NH₃-N SO₂

NO_x

SO₂ NO_x

2

9.6.1

9.6.2

9.6.1

	m ³ /a	239.43	251.786	12.356
	t/a	504.004	259.92	-244.084
	SO ₂ t/a	483.374	447.484	-35.89
	NO _x t/a	923.948	923.948	0
	t/a	5.048	5.048	0
	t/a	1.635	1.635	0
	t/a	9.856	9.741	-0.115
	kg/a	772.42	772.3	-0.12
	kg/a	250	249.3	-0.7
	kg/a	76.16	76.01	-0.15

9.6.2

		t/a	t/a	t/a
	SO ₂	531.8	600.972	0

	NO _x	1055.4	1444.2	0
--	-----------------	--------	--------	---

9.6.3

9.6.3.1

1				1999
24				
2			1999	24
3				
4	1999	3		
5		1999	8	
	1999	9		

9.6.3.2

	1999	24
	1996	470

2m

9.6.3



9.6.3.3

1

(GB/T16157-1996)

2








3

4

() GB15562.1-1995 GB15562.2-1995

9.6-1

<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981021</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>		<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981021</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>	
FQ-2018350981021		FQ-2018350981023	
<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981022</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>		<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981024</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>	
FQ-2018350981022		1-5 FQ-2018350981024	
<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981026</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>		<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981027</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>	
1-5 FQ-2018350981025		6-10 FQ-2018350981026	
<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981027</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>		<p>废气排放口</p> <p>企业名称: 德康药业(上海)有限公司</p> <p>排放口编号: FQ-2018350981028</p> <p>污染因子: 二甲苯、甲苯、苯</p> <p>国家环境保护部监制</p>	
6-10 FQ-2018350981027		11-15 FQ-2018350981028	

 <p>废气排放口 企业名称：_____ 排放口编号：FQ-2018350981029 行业名称：_____ 国家环境保护部监制</p>	 <p>废气排放口 企业名称：_____ 排放口编号：FQ-2018350981030 行业名称：_____ 国家环境保护部监制</p>
<p>11-15 FQ-2018350981029</p>	<p>2 FQ-2018350981030</p>
 <p>废气排放口 企业名称：_____ 排放口编号：FQ-2018350981031 行业名称：_____ 国家环境保护部监制</p>	 <p>废气排放口 企业名称：_____ 排放口编号：FQ-2018350981032 行业名称：_____ 国家环境保护部监制</p>
<p>3 FQ-2018350981031</p>	<p>4 FQ-2018350981032</p>
 <p>废气排放口 企业名称：_____ 排放口编号：FQ-2018350981033 行业名称：_____ 国家环境保护部监制</p>	 <p>废气排放口 企业名称：_____ 排放口编号：FQ-2018350981034 行业名称：_____ 国家环境保护部监制</p>
<p>5 FQ-2018350981033</p>	<p>6 FQ-2018350981034</p>
 <p>废气排放口 企业名称：_____ 排放口编号：_____ 行业名称：_____ 国家环境保护部监制</p>	
<p>2# FQ-2018350981029</p>	

9.6-1

10

10.1

15

VOD

LF

10.2

10.2.1

9

10.2.2

VOD

VOD

LF

VOD

10.3

10.3.1

10.3.1.1

10.3.1.2

2021

TSP

(GB3096-2012)

10.3.1.3

1

2021

100%

30%

2

3

4

1km

460m

980m

1020m

850m

2017

32

234

233

5

HJ2.2-2018

10.1.1

10.3.1.4

VOD LF

VOD VOD

VOD 1 43

LF LF LF

1 43

10.3.2

10.3.2.1

10.3.2.2

10.3.2.3

VOD

1 VOD

VOD

SS +

VOD

2

pH SS COD +

3

VOD LF

10.3.3

10.3.3.1

200m

10.3.3.2

55dB~68dB

53dB~58dB

11# 14# 15#

(GB3096-2008)3

7# 11# 14# 15#

(GB3096-2008)3

10.3.3.3

52.8dB~64.8dB

GB12348-2008

3

1#

6# 7# 12# 13#

GB12348-2008

3

10.3.3.4

LF VOD

30km/h

10dB

15~30dB(A)

10.3.4

10.3.4.1

10.3.4.2

GB/T 14848-2017 III

10.3.4.3

HJ 610-2016

10.3.5

10.3.5.1

50m

10.3.5.2

GB 36600-2018

GB 15618-2018

10.3.5.3

20

2.86 10^{-2} mg/kg

9.53 10^{-2} mg/kg

2.88 10^{-3} mg/kg

GB

36600-2018

GB 36600-2018

10.3.5.4

1

10.3.6

10.3.6.1

VOD

10.3.6.2

10.3.7

10.3.8

10.3.9

SO₂ NO_x

10.4

2018

2022 10 13

<http://www.tsingtu.com/>

2018

2022 11 24

<http://www.tsingtu.com/>

2022 10 13 11 24

10.5

15

VOD

LF

2019

(2011~2030)

10.6

		682
2017	4	
	2018	9

5

20

10.7.1

10.7

10.7.1

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1		GB12348-2008	3
1			
2			
3			
1			
1			