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2013

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[2021]45

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50.4km^2

2021-2035

2021-2035

2023 8 22 [2023]63

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1.2.3 “ ”

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[2020]1 [2018]74

2

2022

GB3095-2012 SO_2 NO_2 CO PM_{10} 4 PM

HJ2.2-2018 D

GB3838-2002 IV

GB3096-2008 3

GB/T 14848-2017 1

GB36600-2018

GB18918-2002 1 A

IV

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4

(2022)

2022 <

2022 > [2022]55

[2020]49

1.2.4

[2014]128

119

[2019]53

2021 65

2021 11 2

2022 1 24

VOCs 2022 218

GB33372-2020 <

> GB37822-2019 2019 55

VOCs

2020 11

([2020]101)

1.3

1

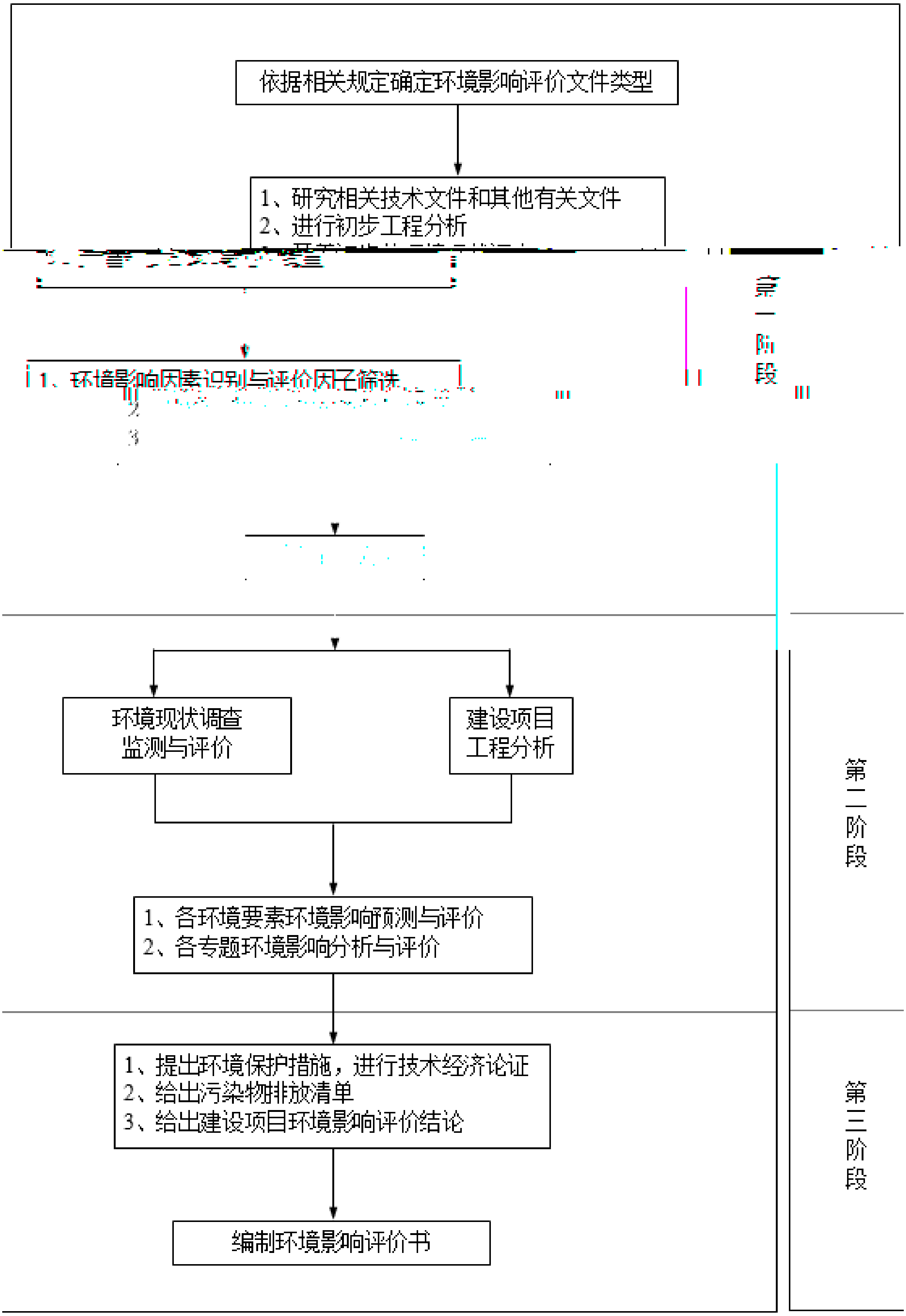
2

RTO

3

1.4

!　!


依据相关规定确定环境影响评价文件类型
1、研究相关技术文件和其他有关文件
2、进行初步工程分析
1、环境影响因素识别与评价因子筛选
环境现状调查
监测与评价
建设项目
工程分析
1、各环境要素环境影响预测与评价
2、各专题环境影响分析与评价
1、提出环境保护措施，进行技术经济论证
2、给出污染物排放清单
3、给出建设项目环境影响评价结论
编制环境影响评价书
第二阶段
第三阶段

1.4-1

1.5

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2.2-1

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2- [a] [a] [b] [k] [a,h] [1,2-3-c,d]
45

2.2-2

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2.2-3

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2.2.3

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2.2-4

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NO_2		40		
	24	80		
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PM_{10}		70		
	24	150		
O_3	8	!		
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CO	24			

2.2-6 mg/L pH

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2.2-8 mg/kg pH

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2.2.4.1

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2.2-9

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#		!	! %	"	"	

2.2-10

	mg/m^3	
	20	
SO_2	80	
NOx	180	

2.2-11

		m	kg/h	mg/Nm^3	
1		15	4.9	1.5	GB14554-93
2			0.33	0.06	
3			2000	20	

[redacted]

!! □ " !!	6.5 8.5	30		50	25	30	450	2500
!))"# □" "	6.5~9.0		10	50	20		450	
	6.5~8.5	**≤30**	**≤10**	**≤50**	**≤20**	**≥30**	**≤450**	**≤2500**

2.2.4.3

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2.2.4.4

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2.3-1

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2.3-2

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2.3-7

2.3-8

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2.4-3

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2.4-4

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2.5.1.3

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2.5.1-2

2.5.1.4

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2.5-1

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230t/h **300t/h** **6.94t/h**

2.5.1.5

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2.5-2

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		GB3838-2002 IV
		GB3096-2008 3

2.5.1.6 **[2008]17**

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2.5.1.7 2021-2035

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" "# #

2.5-3 [2023]63

[2023]63		
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2.5.2

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2.5.3.2

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2.5.3.3

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2.5-6 2022 >

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2.5-7

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2021-2035

2.5.3.5 “ ”

[2020]49

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2.5-8 “ ”

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2.5.3.6 **2020 78**

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2.5-9 " "

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2.6.1

2021 11

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2022 1 24

2.6-1

	2 3		
	1 2		

	3		

2021 11 2

2022 1 24

2.6.2

[2014]128

VOCs

VOCs 90% 75%

	)%	)(
#		

[2014]128

2.6.3

119

2.6-3

2.6.4

" !) %#

2.6-4

VOCs VOCs		

VOCs VOCs VOCs	VOCs VOCs	
VOCs VOCs VOCs VOCs VOCs	DMF VOCs VOCs	
VOCs VOCs	VOCs	
VOCs VOCs + + + VOCs VOCs VOCs	+ 15m / +RTO 15m + + 15m	

2.6.5 < >

2021 2

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2.6-5

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VOCs VOCs 10% VOCs 10%		
0.5% 5		
VOCs VOCs VOCs	POY 15m + 15m + 15m / +RTO 15m + 15m / +RTO 15m	

800mg/g

650mg/g

$1100m^2/g$ BET

	% (	"	
	" (,	POY 15m + 15m + 15m / +RTO 15m + 15m / +RTO 15m)	
	! %	! % " #	

	(!)	(!)	

2.6.8 < > GB37822-2019

2019 55

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2.6.9 VOCs

2020 11

" " !! ")

2.6-9 2020 11

	VOCs DB12/524-2014 GB37822-2019 VOCs	#" !" "! ! #" !" "! #	
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	VOCs VOCs DB32/T3500 2019 VOCs VOCs VOCs VOCs	VOCs GB33372-2020	
	VOCs	VOCs	
	GB37822-2019 VOCs VOCs	l VOCs GB37822-2019	

	VOCs VOCs VOCs VOCs		
	VOCs VOCs VOCs VOCs VOCs VOCs 2 1.5	" ! %	
	!		

2.6.10 **GB33372-2020**

42~44%

44%

97%-99% 1%-3%

1% ! # VOCs 10

"□" " VOC 50g/L

1 ""# ! #"! ! ! "#

"□" " !

VOC 250g/L

"□" "

2.6.11 VOCs

2022 218

VOCs

2022 218

2.6-10 VOCs

!	1	POY 15m + 15m + 15m	

		/ +RTO 15m + 15m / +RTO 15m	
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#			

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VOCs

2022 218

2.6.12 ([2020]101)

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2.6-11

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3.1

3.1.1

2021 8 50000

12 50.68

33786.7m^2 17752.8m^2

1.5

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3.1.1-1

3.1.2

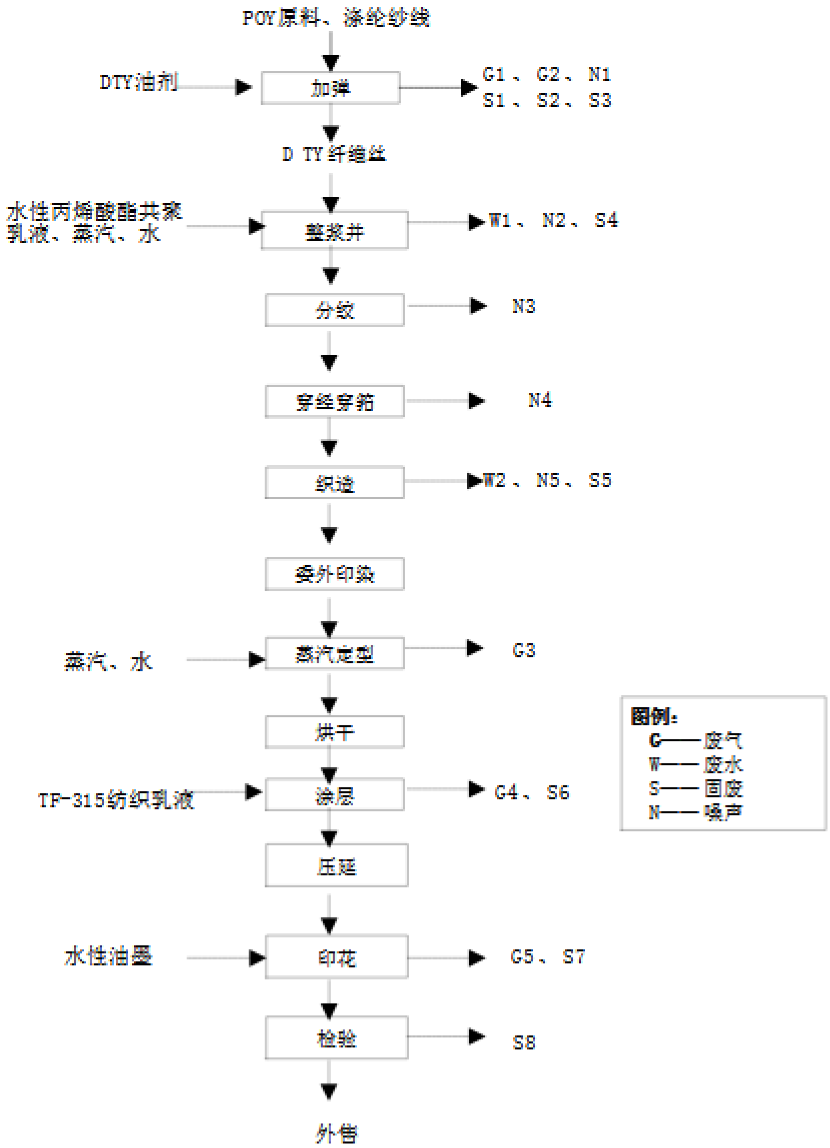
3.1-1

				h
		15000		7200h

3.1.3

3.1.3.1

15000 /a



3.1.3-1

1 POY

170

150

DTY N1

G1 G2 S1 S2 S3

2

N2 S4

3

N3

4

N4

5

W2 S5 N5

7 200

G3

8 : 160

9

G4 S6

10

11

CAP( ) (RIP)

S7 G5

12

S8

3.1.3.2

3.1-2

			t/a			**t**		
	POY		20000	50kg/		1500		
			20000	50kg/		1500		
		□ % 1% 55-57%	2000	1t/		600		
		9.5% 8% 5% 2.5% 65% 10%	700	1t/		50		
		PU 30% PA 10% 5% 35% 5% 10% 5%	100	50kg/		10		
	PAM		10	50kg/		0.05		
	PAC		20	50kg/		0.05		
	DTY	90~92% 8~10%	600	1t/		50		
			1.5	250kg /			-	

3.1.3.3

3.1-3

				/	
			HY-7 HY-12	10	
			□(! >900m/min	1000	
			-	100	
			-	10	
			BFBS2A	2	
			-	2	
			-	2	
			-	10	
			-	2	
			-	2	
			ASMA5038WGP	2	
			ICHINOSE-2600mm*14C	6	
	/		SLVC-132A	1	
	/		1m³	1	
	/		□	2	
	/		5m³	1	

3.1.4

3.1-4

			!% □!	
			+ + + +15m FQ-02	#" !□ " "!
			+ + + +15m FQ-03	
			+ + + +15m FQ-04	
			(%	GB18483-2001
			! !% □%	GB14554-93
			#% #	

			" # " #	
			! "	
			!" "	

3.1.5

3.1-5 **t/a**

		VOCs	!%#	! #	((	((
			!!	()	!""	!""
			"	!)	%	%
			%	#		
		VOCs	! !)		! !)	! !)
		m^3/a	! # %%	! "! #%	!""	!""
			! "(	410.752	#%"(	!"
			%	61.986	" %"	!""
		#□	!%%	15.315	" %	!
			! !	1.022	)	
			"	20.4	#	!(
			!	0.072	"	!
		%	" "	" "		
			!%#! #	!%#! #		

!! ()

3

	" # !	# !	
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3.1-8 **[2018] 6**

!	# % # % !	! %	! %		
"		4# 6# 7# 8# 50m	4# 6# 7# 8# 100m		
#					
		! ! !% ! #	! ! !% ! #	! !	

		# !% " # ! ! !% % ! 1 1	# !% " # ! ! !% % ! ! !% ! 1 1	!%	
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3.2

3.2.1

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1.5

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3.2.2

3.2.2.1

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3.2.1-1

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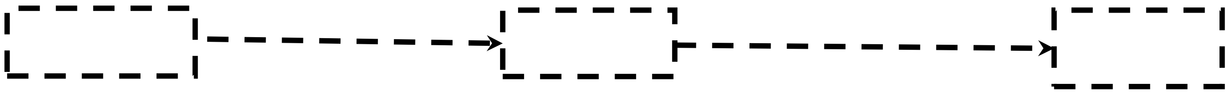
!		450 "			1800 "	
		!%l %"			! %" (	

3.2.2.2

! %

#" "□! #" "□!

3.2.2-1



3.2.2-3

	1#	1F 1800m^2	1F 1800m^2	0	
	2#	1F 1800m^2	1F 1800m^2	0	
	3#	1F 1800m^2	1F 1800m^2	0	
	4#	1F 1800m^2	1F 1800m^2	0	
	5#	1F 900m^2	1F 900m^2	0	
	6#	1F 1116m^2	1F 1116m^2	0	
	7#	1F 1020m^2	1F 1020m^2	0	
	8#	1F 4080m^2	1F 4080m^2	0	
		F 900 "	F 900 "	0	-
		F 736.8 "	F 736.8 "	0	-
		F ("	F ("	0	-
		" "	200m^2	0	7#
		"	" "	+! # "	8#
		"	"	0	7#
		153329m^3/a	#! %# #m^3/a	-121575.7m^3/a	
		12240m^3/a	#" #	□)" #	
		2210 kWh/a	2300 kWh/a	+90 kWh/a	
		50000t/a	50000t/a	0	
		0	10.8 m^3/a	+10.8 m^3/a	
		3000m^2	3000m^2	0	-

			! % □ ! ! #	! ! % □ ! ! #	0	
			+ + + +15m FQ-02 10000m^3/h	+2 + + +15m FQ-02 36000m^3/h VOCs	+ 26000m^3/h VOCs	
			+ + + +15m FQ-03 40000m^3/h	+ + + +15m FQ-03 40000m^3/h	0	
				/ +RTO +15m FQ-04 30000m^3/h VOCs	+ / +RTO +15m FQ-04 30000m^3/h VOCs	#" !□" "! #" # "(□" "
				/ +RTO +15m FQ-05 30000m^3/h VOCs	+ / +RTO +15m FQ-05 30000m^3/h VOCs	
			+ + + +15m FQ-04 30000m^3/h	+ + + +15m FQ-06 12000m^3/h	- 18000m^3/h	

				/ +RTO +15m FQ-07 18000m^3/h	/ +RTO +15m FQ-07 18000m^3/h	
			+ 1 +15m FQ-05 10000m^3/h	+ 1 +15m FQ-08 12000m^3/h	+ 2000m^3/h	GB14554-93
			(%	85%	0	GB18483-2001
			+ + +A/O + + #% #	+ + +A/O + + #% #		
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3.2.3.2

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3.2.4

3.2.4.1

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1m^3/h

72000m^3/a　　3600m^3/a

0.95　　68400m^3/a

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$$Q_F = \frac{P_F \cdot Q}{100}$$

$$Q_b = \frac{Q_c}{N - 1} - Q_F$$

$$Q_z = Q_a + Q_b + Q_F$$

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10 271m³/a

50m³

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!#

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3.2.4.3

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3.2.4.4

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3.2.4.5

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"% # " "

3.2.4.6

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3.2.4.7

" ( )

3.3

3.3.1

3.3.2

3.3.2-1

3.3.2-1

1 POY

170

150

DTY N1

G1 S1 S2 S3

2

N2

S4

3

N3

4

N4

5

W1

S5 N5

6

5%

70

W2

7

200

G2

8

9

3:2

DMF

21% 25% 32% 5% 3%

DMF12% 2%

G3

S6

10

2-5S

$5g/m^2$ $10g/m^2$

180~200 20-30S

G4 G5

11

12

G6 S8

G7 S9 S10

13

S11

14

3.3.3

3.3.3.1

#□!

3.3.3-1

			t/a		t/a	t/a	
	POY		20000	50000	+30000	1500	50kg/
			20000	0	-20000	1500	50kg/
		9.5% 8% 5% 2.5% 75%	700	700	0	30	1t/
		42-44% 1% 55-57%	2000	1325.6	-674.4	40	1t/
		% " %	0	( )	( )	10	200kg/
		"	0	%#	%#	10	25kg/
			0	(	(	10	25kg/
			0	!)	!)	5	20kg/
		(!#	0	!	!	2	25kg/
		)))	0	"% %	"% %	5	190kg/
		)))	0	"	"	2	170kg/
		#	0	500	+500	20	1t/
		98%	0	40	+40	1	1t/
		/	0	200	+200	5	25kg/
		PU 30% PA 10% 5% 35% 5% 10% 5% 50% 20% 10% 1- -2-	100	40	-60	2	50kg/

			70%	0	10	+10	0.2	200kg/	
		PAC		20	80	+60	5	50kg/	
				1.5	1.5	0	0.4	170kg/	
		DTY	90~92% 8~10%	600	600	0	50	1t/	
			/	50000	50000	0	/	/	

3.3.3.2

#□"

3.3.3-2

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3.3.4

3.3.4.1

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3.3.4-1

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			LNH634-280		!	!
(			ASMA5038WGP	"		
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!"			ICHINOSE-2600mm*14C			
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!%			SLVC-132A	!	!	
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!)			5m³	!	!	

3.3.4.2

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3.3.4-2

	/	m/d	d	m/a	m/a	
	!	%	#	!%	!%	!

"

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3.3.4-3

	/	m/min	h	m/a	m/a	
	!	#%	"	!%"	!%	))"
			"	!%%%"	!%	96.4%

#

15000 / 10

3.3.4-4

		m/min	h	m/a	m/a	
	!	#%	"	!%"	!%	))"

" #

3.3.5

3.3.5.1

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!(		(				
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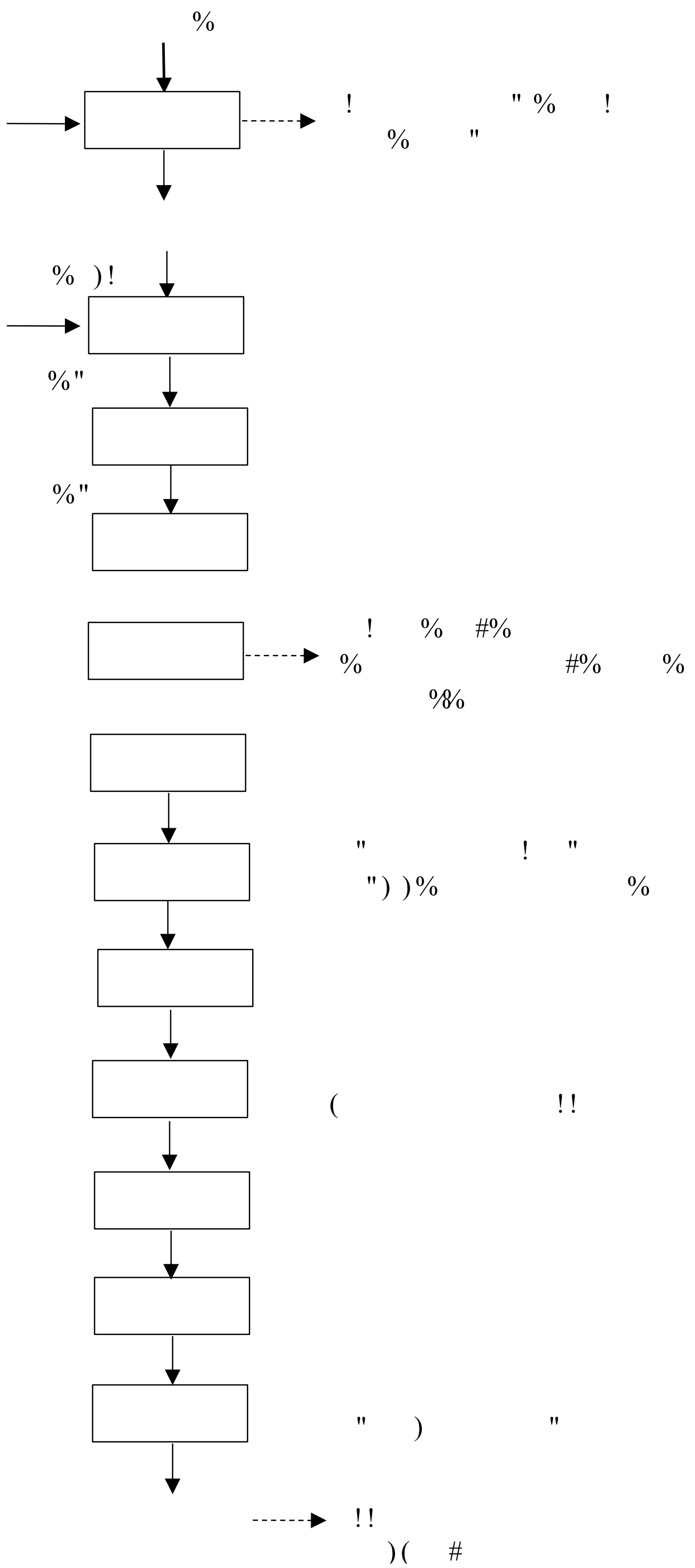
"		%				
		(! #!	51300	")"" ")	%!!%	! %(#
			(! #!			



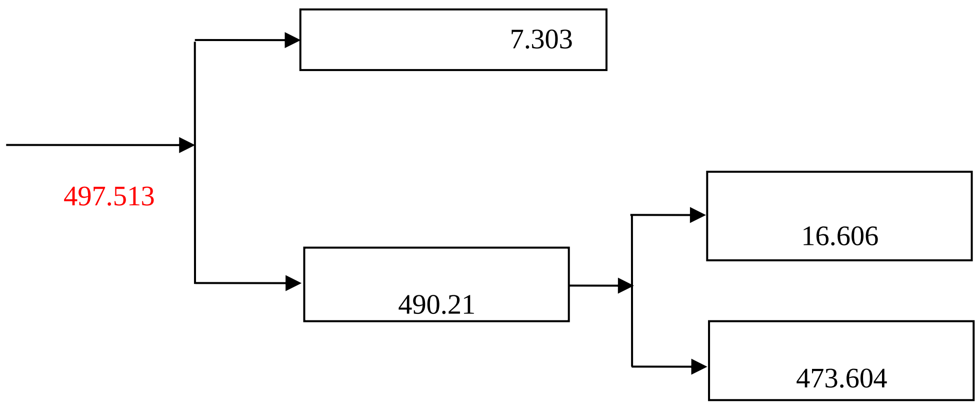
3.3.5-1

3.3.5.2

!

3.3.5-2 t/a

	2.56			0
	17.62			0
	5.833			497.513
	" %			16.606
	2			7.303
	42			473.604
	497.513			497.513



3.3.5-2 t/a

"

3.3.5-3 t/a

	22.445			0
	42.7			0
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				65.145
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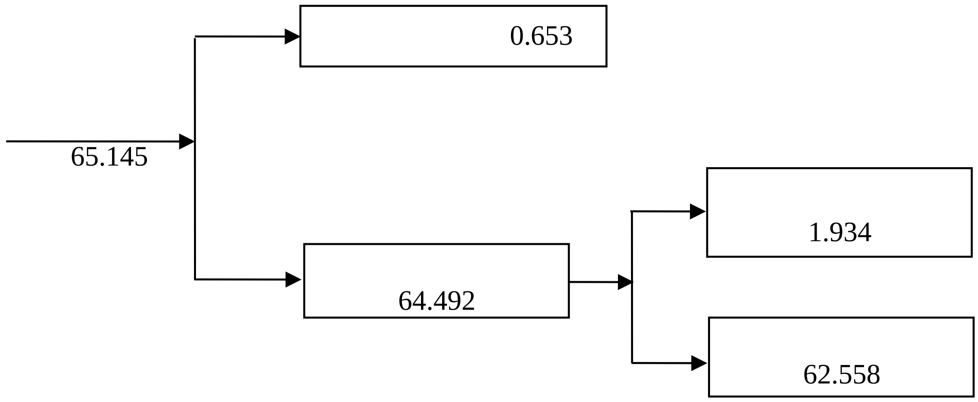
	65.145			65.145

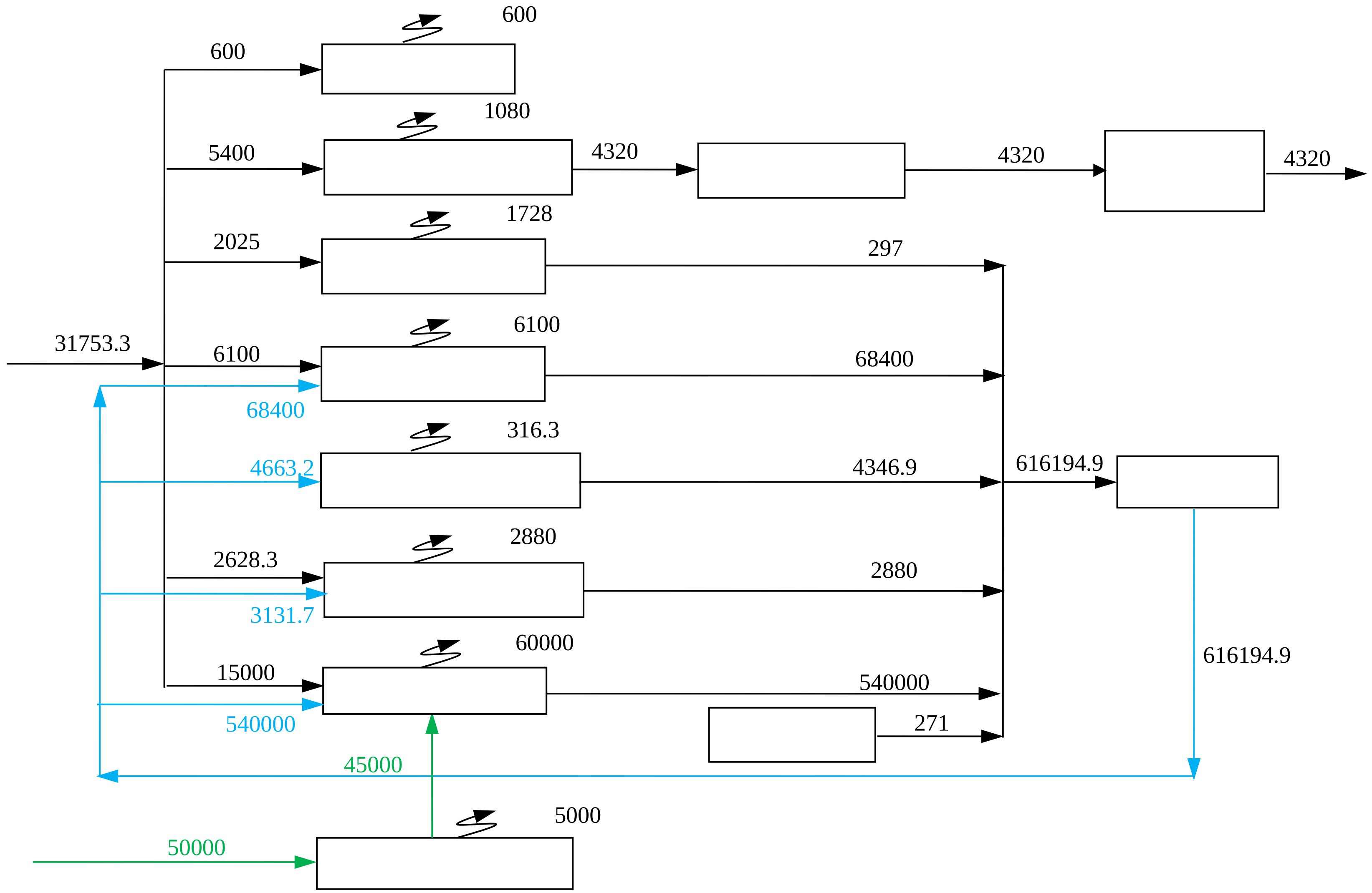


3.3.5-3 **t/a**

3.3.6

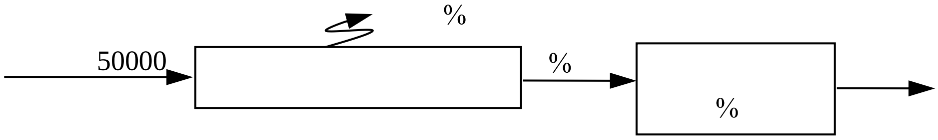
3.3.6.1

!


600
600
1080
5400
4320
4320
4320
1728
2025
297
31753.3
6100
6100
68400
68400
316.3
4663.2
4346.9
616194.9
2880
2628.3
2880
3131.7
60000
616194.9
15000
540000
540000
271
45000
5000
50000

3.3.6-1 **m^3/a**

3.3.6.2



3.3.6-2 t/a

3.3.6-1 t/a

!		50000	5000	45000	0

3.4

3.4.1

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10 271m^3/a

50m^3

3.4.1-1

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	%	COD	500	"						
		BOD%	300	! "						
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	1496.9	COD	300	)						
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		SS	200	%						
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97%-99%

1%-3% 1%

1325.6t/a 5.833t/a

+ + 4 40000m^3/h

98% 90% 15m FQ-03

5.716t/a 0.5716t/a

0.117t/a

6

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32% 5% 3% DMF12% 2%

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3.4.2-1

			(m3/h)	(mg/m3)	kg/h	t/a				(Nm3/h)	(mg/m3)	kg/h	t/a	(mg/m3)	kg/h	h/a	m	m	
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3.4.2-2

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			#!)	" #	60	17	! "
(			#	"	68		! "
				%#			
			) !	%#			
		#	! (	! #	%	! "	(
		"	)	%			

3.4.2-3

			(m³/h)	(mg/m³)	kg/h	t/a				(Nm³/h)	(mg/m³)	kg/h	kg/a	(mg/m³)	kg/h	h/a	m	m	
	□ !		!	#"	#"	" #	)		%	!	!	!	!		#	% "	! %	(	" %
	□ "		#		"	! "	) (		%	#	##	! "	! "		#	% "	! %	) "	" %

				!!##	(	") #%					%	"	"	"	!				
	□ #			!))	)	% !	)(		%		))#	#)	#)		#	% "	!%	)	"%
	□		#	))	") #)	"!! !	))		)	#	))	")#)	")#)		#	% "	!%	(	
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	□		! (	# (	%%	#))	) %		)	! (	# (	%%	%%		#	% "	! %		
		#		#	((	#%			%		# %				4.9	%			
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	□ (		! "	! %			) (		%	! "	%			"		"	! %	%"	"%

3.4.3

#□! # #□"

3.4.3-1

					/m								
		/	/dB(A)		X	Y	Z	/m	/dB(A)	h/a	/dB(A)	/dB(A)	m
!		"%	(		!"%		! "	%		"	"	%	"%
"		"%	(		!"%	)	! "	%		"	"	%	"%
#		"%	(		!#	!"%	! "	%		"	"	%	"%
		"%	(		!#	!	! "	%		"	"	%	"%
%		"				!	! "	!	%%	"	"	#%	
		10			%		! "	%		"	"		%
		6			%		! "	%		"	"		%
		!	)		%	(	! "	!	)	"	"		%
					"%	!	! "	%		"	"		"%
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		!	)		!%	)%	! "	!	)	"	"		!%
(		!			#	!%%	! "	%		"	"		!
		2			#	!	! "	%		"	"		!
		1	)		%	!%%	! "	%	(	"	"		"%
		10	(			!	! "	%		"	"	%	"
		!	%		#	!!	! "	!	%	"	"	%%	#

0 0 0

3.4.3-2

		/	/m			/ / dB A /m		
			X	Y	Z			
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"			%	)%	! "	) !		
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	(			!%	! "	) !		
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0 0 0

3.4.4

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DTY

3166 /a 56kg 177.3t/a

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3.4.4-1

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3.4.4-2

									t/a
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[redacted]

3.4.5 “ ”

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3.4.5-1 “ ” t/a

			((	) " !	#	16.606	((		!
				)"	" %(	1.934			!)#
				") #( )	" !%	2.9659			") %)
		"		"!		0.0216			"!
		NOx		" ""		0.2022			" ""
			!""	#%	%(	0.127	!""		!"
			%	"	!) (	0.00492	%		)"
				%	#	!		/	!
			! !)	# #		# #	! !)		# #
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			" %"	((! (	(#)! (	)	" %"	)	#
	#□		" %	#%	#	(	" %	(	"!
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			0	# #))	# #))		0		
			"	"	#	#	"	#	#"
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3.5

3.5.1

3.5.2

□

3.5.3

3.5.4

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3.6

3.6.1

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!)" !(

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3.6.1-1

			t/a	**t**	
!		9.5% 8% 5% 2.5% 75%	700	30	1t/
"		42-44% 1% 55-57%	1325.6	40	1t/
#		75% 20% 5%	448.9	10	200kg/
		TiO_2	534.4	10	25kg/
%			684	10	25kg/
			106.9	5	20kg/
		87% 13%	64.1	2	25kg/
(	DMF	99.9%	256.5	5	190kg/
)		99.9%	42.7	2	170kg/
10		30%NaOH	500	20	1t/
!!		98%	40	1	1t/
!"		50% 20% 10% 1- -2- -4- 20%	60	4	50kg/
!#	PAM		20	1	50kg/
!	PAC		80	5	50kg/
!%			1.5	0.4	170kg/
!	DTY	90~92%	600	50	1t/

			t/a	t	
		8~10%			
!	/		103.5	8.625	
!(			24.381	2.032	"
!)			6	0.5	"
"			0.45	0.1125	"
"!			0.15	0.0375	
""			11.4	0.95	"

!)□" !(

3.6.1-2 Q

		CAS	qn/t	Qn/t	Q
!			"	!	"
"		(□!"□"	5	%	!
#		! (□((□#	2	!	"
				!	
%		! (□((□#	%	!	%
		(□!"□"	"	%	
			0.4	"%	!
(			50	"%	"
)	)(	□)#□)	!	!	!
!			30	!	#
!!				!	
!"			10	!	!
!#			10	!	!
!			5	!	%
!%			2	!	"
!	PAM		1	!	!
!	PAC		5	!	%
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3.6.1-3 M

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3.6.1-4

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3.6.1-5

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3.6.1-6

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3.6.1-7

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3.6.1-7

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3.6.1-8

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3.6.1-9

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3.6.1-10

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!□!!

3.6.1-11

E	P			
	P1	P2	P3	P4
E1	+			

E2				
E3				
E1	+			
E2				
E3				
E1	+			
E2				
E3				

!□!"

3.6.1-12

	+			
				*

!) " !(!

!□!#

3.6.1-13

		F 1.5 m/s 25 50%

3.6.2

3.6.2.1

"□!

3.6.2-1

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3.6.3

" " ! !

3.6.3-1

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3.6.4

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3.6.4-1

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4.1

4.1.1

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4.1.2

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4.1-1

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220m

4.1-2

4.1-2

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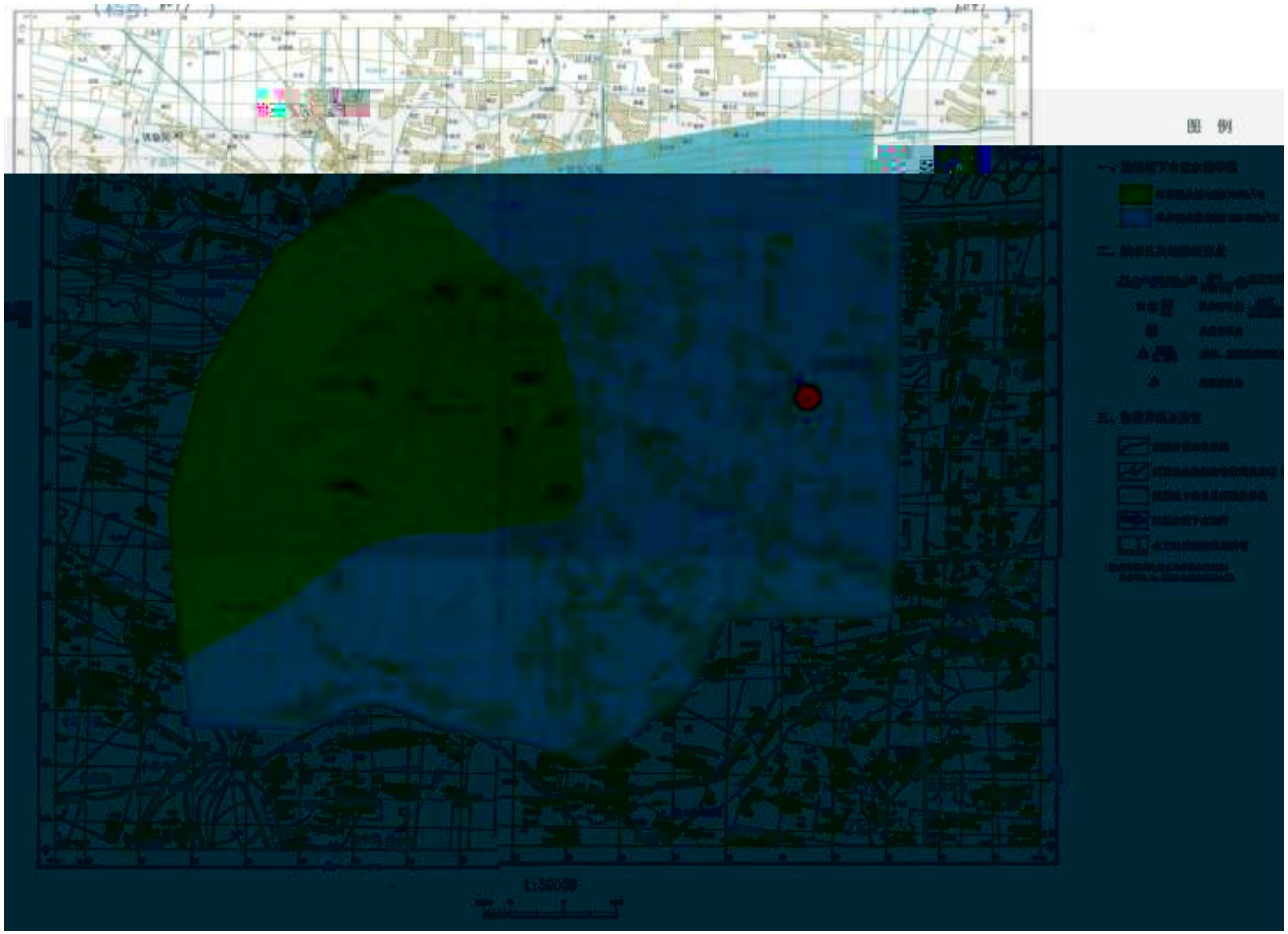
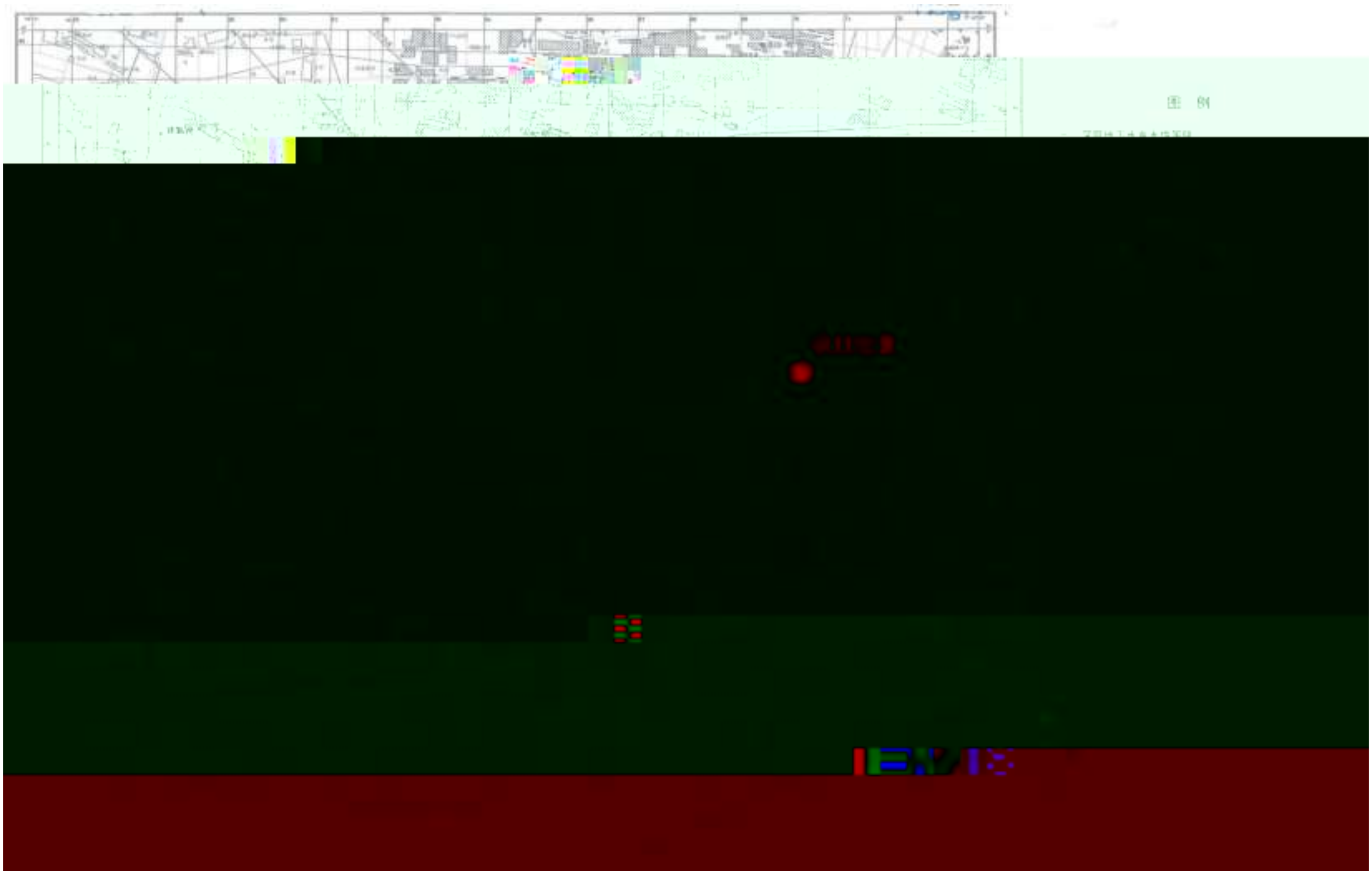
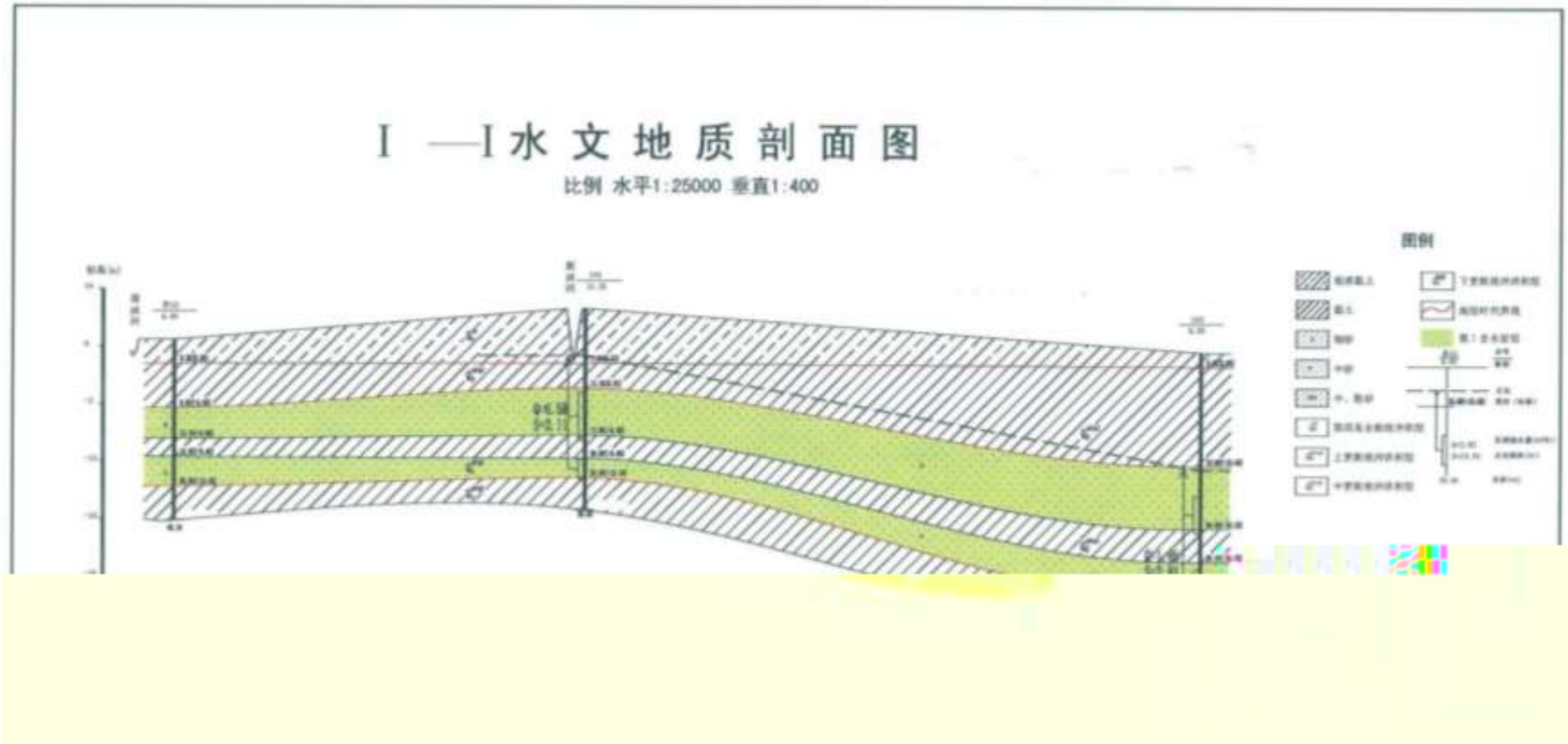


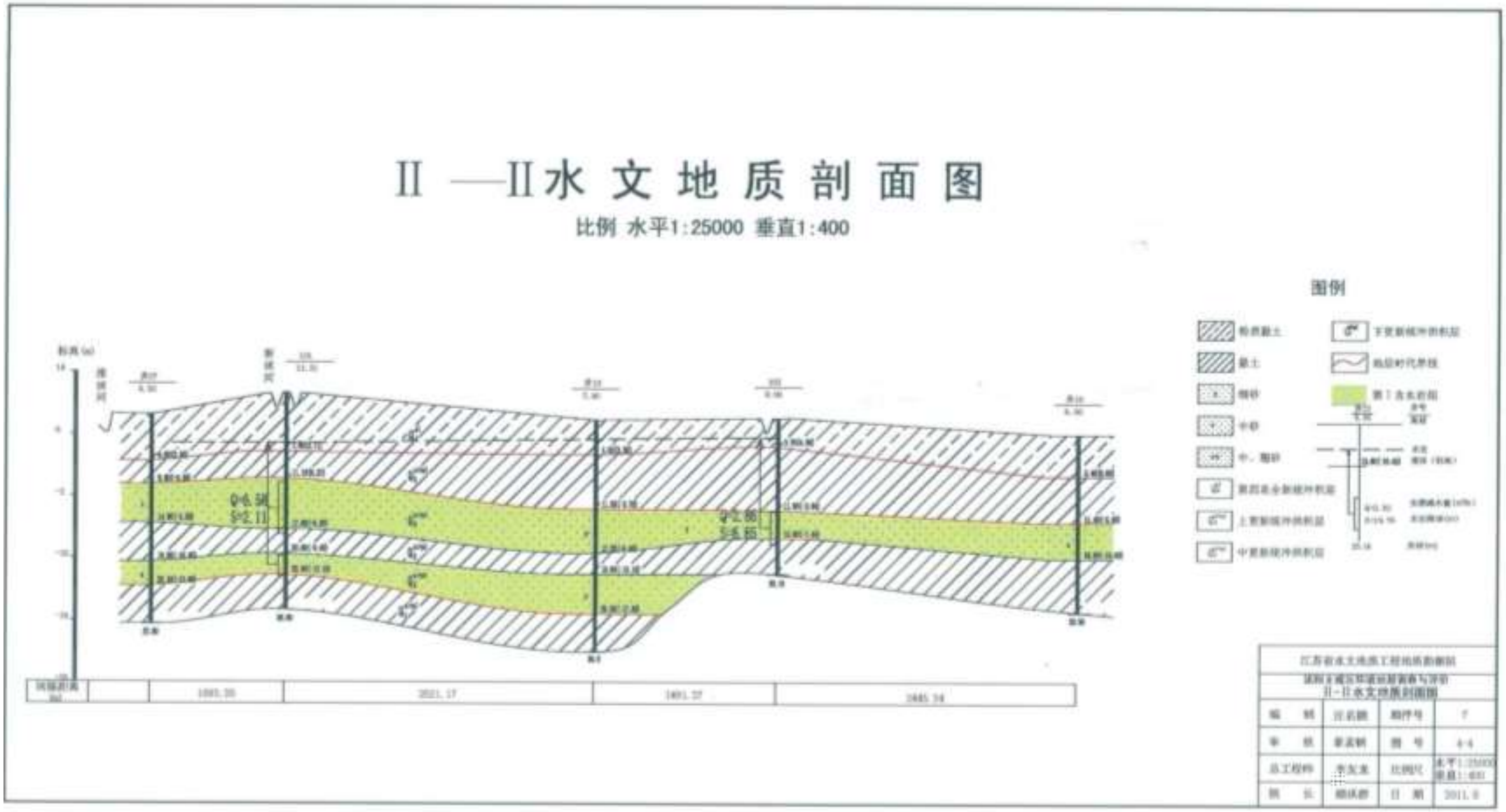
4.1-3



4.1-4



4.1-5 I-I



4.1-6 II-II

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4.2

4.2.1

4.2.1.1

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4.2.1-1 2022

		μg/m³	μg/m³	
SO_2		6	60	
NO_2		23	40	
PM_{10}		61	70	
$PM_{2.5}$		37	35	
O_3	8	169	160	
CO	24	1000	4000	

2022

[2022]11

1

a b c

d e

f g

2

a b c

d e

f g

h i j

3

a b c

d e f

4

a b c d

5

a b c

d e f

6

a b c d

4.2.1.2

!

!

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"!" ! (" "" !

" !

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4.2.1-2

	/m					
	X	**Y**				**/m**
!	668578.67	3776738.96		2022 5 14 ~5 20 1h		
!	670778.45	3777166.82		2022 7 4 ~7 10 1h		" ! "
"	670008.05	3777839.64				! (

! "

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4.2.1.3

" ! #

4.2.1-3

				kPa	**/%**	**m/s**		
! "	" ""	"*	"%	! "	("	" #		
		(*	"("	! "		" %		
		! *	" "	! !	(	" !		
		" *	" %	! !	(%	" "		
	" "" %	"*	" #	! "		" %		
		(*	"	! "	(	" %		
		! *	## !	! !	#	" (		
		" *	"(%	!	(	# !		
	" ""	"*	" !	)) (	(	" (		
		(*	"	))		" %		
		! *	#!	))	%%	"		
		" *	"(#	))	%	"		
	" ""	"*	" "	!		"		
		(*	"%#	! "	%	"		
		! *	")	! !	"	" %		
		" *	" !	! "	%)	" #		
	" "" (	"*	"	! "	("	"		
		(*	# %	! !	)	" #		
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		" *	"	! "	%	" !		
	" "")	"*	" %	! !		"		
		(*	"(!	! !		" "		
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		(*	"("	! "	)	" %		
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		" *	!	! ! !	%)	! #		
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		(*	!)	!	#	!		
		! *	"(	!	)	"		
		" *	"#	!	%!	!)		

" ! □#

$$I_{ij} = C_{ij} / C_{si}$$

□

□ #

□ #

4.2.1-4

	/m				/ μg/m³	/ μg/m³	/%	/%	
	X	Y							
!	(%(	# #( )		!	"	!			
				!	!	# (	(		
				!	"				
				!	"	!!	%(%		

	/m				/ μg/m^3	/ μg/m^3	/%	/%	
	X	Y							
!	(%	# ! ("		!	"	%)	%		
				!	!	! #	#		
				!	"	"))	) %		
"	(%	# (#)		!	"	%)	%		
				!	!	! #	#		
				!	"	(!	%		

! # #

" "□" ! (

% %

" " "□!

!□"

4.2.2-1

W1		500m	pH COD SS LAS
W2		500m	
W3		2000m	

#

" "" (# !

4.2.2.2

4.2.2-2

4.2.2-2

pH COD SS LAS

2

i j

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

S_{ij} i j

C_{ij} mg/L

C_{si}

pH

$$S_{pH.j} = \frac{7.0 - pH_j}{7.0 - pH_{sd}} \cdots\cdots\cdots\cdots (pH_j \le 7.0)$$

$$S_{pH.j} = \frac{pH_j - 7.0}{pH_{su} - 7.0} \cdots\cdots\cdots\cdots (pH_j > 7.0)$$

$S_{pH \cdot j}$ pH j

$pH_{\cdot j}$ j pH

pH_{su} pH

pH_{sd} pH

3

GB3838-2002 IV

4

4.2.2-3

4.2.2-3

	pH		**COD**							
W1	0.4	%	(#	0.97	)	1.0	%	0.60	(	(
W2	0.4	%	(#	0.97	)	0.98		0.60	(	(

W3	0.4		(#	0.97	)	0.99	#	0.80	(	(
	LAS									
W1	(#	)								
W2		)								
W3	("	)"								

GB3838-2002 IV

4.2.3

4.2.3.1

!

" #□! "□"

4.2.3-1

!	!	1	"
"	!		
#	!		
	!		

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" "" % ! % !

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) □" (

4.2.3.2

!

"

) □" (

% 1 %% 1

#

" #□"

4.2.3-2 dB(A)

!	" "" %!	% !	%		#	%%	
"		%%	%		!	%%	
#		%	%		#	%%	
		%# %	%			%%	
!	" "" %!	%	%		)	%%	
"		%%"	%		%%	%%	
#		%#	%		%	%%	
		% !	%		(	%%	

" #□"

) □" (

4.2.4

4.2.4.1

1

5 10

4.2.4-1 4.2-3

4.2.4-1

!		" " #"□ #□ □ "□ ,	2021 10 10
"		" " #"□ #□ □ "□ ,	" "# !
#		" " #"□ #□ □ "□ ,	" "" % !(
		" " #"□ #□ □ "□	" "# !

%		" " "□ # # □ □ "□ pH ( ) ,	2022 7 1
			2022 7 1
			2022 7 1
( )			2022 7 1 " "#

			8.75	37.8	3.20	0.071
			0.612	0.147	"!"	0.194
		("%	0.01L	0.0096	"	0.05
			0.004L		0.004L	
		(	0.07L	0.00468	0.07L	
		#"	123	135	117	/
		(	493	128	213	/
		#	/	147	/	77.6
			/	144	/	212
			630	2	700	230
		/	470	180	530	36

4.2.4-3 m

D1	1.3
D2	1.1
D3	1.4
D4	1.4
D5	1.2
D6	1.6
D7	1.8
D8	1.9
D9	1.6
D10	1.4

4.2.4.3

GB/T14848-2017

4.2.4-4

4.2.4-4 mg/L pH

		" %	670	452	531	524
		%	746	870	613	602
			/	144	/	212
			/		/	
		#	/	147	/	77.6
			/		/	
			0.004L		0.004L	
			0.004L		0.004L	
			4×10^{-5}L		4×10^{-5}L	
		%"	0.0013	0.00034	0.0009	0.0008
			0.005L		0.005L	
		(	0.07L	0.00468	0.07L	0.07L
			0.007L		0.007L	0.007L
		!!%	0.554	0.842	0.496	0.121
			630	2	700	230
		/	470	180	530	36
		/				
		("%	0.01L	0.0096	"	0.05

"

% % %

%)"

GB/T14848-2017

GB/T14848-2017

4.2.5

4.2.5.1

!

"

\# " %! "□"

"

%

\#

" "" % ! (

4

4.2.5-1

1	T1		0-0.2	45
2	T2		0-0.2	
3	T3		0-0.2	

4.2.5.2

!

! #

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"

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! !□	! "			
! "□	! #			
! !□	!			
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4.2.5-3

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		%	#				
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		(	#	#		!	
		#(	#	#		!	
		)	#	#		!	
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		#	#				
		)	#				
	! !□	)	#				
	! "□	%	#				
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4.3

4.3.1

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4.3.1-1

		/m		/m	/m	/m	/	/ m^3/h	/h			(kg/h)
		X	Y									
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4.3.2

616194.9 #

3600 # " #

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5.1

SO_2 NO_X

5.1.1

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5.1.1-1

SO_2		60	3	GB3095-2012
	24	150		
	1	500		
		%		
	"	!		
	!	"%		
PM_{10}		70		
	24	150		
		"		
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5.1.1-2

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□(	#	!(	"		! %# □#	
	"	(	!	%	% # □%	
		Kg/h	**mg/m³**	**P_i %**	**mg/m³**	—
		(#	%	(	")! □"	
		)	"	! "	# □"	
		#!)	"	% (	! % □!	
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5.1.2-2

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5.1.3

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5.1.3-1

			/ mg/m³	/ kg/h	/ t/a
!					
!	!		#"	#"	0.2304
"	"			"	1.727
			!! #	(	2.935
#	#		"	)	0.5716
			") #	((	#%
			#	!#	)
				!	! #
		SO_2	##	!	"
		NO_X	#!#	)	

% FQ-05

		" ""
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		") %)
	SO_2	"!
		" ""
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2

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5.1.3-2

							/ t/a
						/ mg/m^3	

7		%"

5.1.3-4

		- %		5 %			=5 km	
	SO_2+NO_x	"	% "				%	
		(SO_2 NO_2) ( )			$PM_{2.5}$ $PM_{2.5}$			
					D			
		2022						
		AERMOD	ADMS	AUSTAL2000	EDMS/AEDT	CALPUFF		
		%		5 %			- %	
		( )			$PM_{2.5}$ $PM_{2.5}$			
		C !			C !			
			C !		C !			
			C #		C #			
	1h	h	C !		C !			
		C			C			
		k -20%			*k* -"			
		SO_2 NO_X						
		m						
		SO_2: 0.0216 t/a	NO_x: 0.2022 t/a	: 3.8099 t/a	: 23.909 t/a			
		: 2.587 t/a	: 0.14 t/a	: 0.00542 t/a				

5.1.4

! □#　　　　　　　　　　　　　　%!　□!

5.1.4-1

		Kg/h	mg/m³	P_i %	mg/m³	$D_{10\%}$(m)
□ !		#"	"	! "	" □ #	
□ "		"	"	4.12	8.25E-02	
		(	%	31.16	1.40E-01	
□ #		)	"	1.36	2.73E-02	
□		((! #	" "	! ! ! %#)	" " □ ! # (□ "	

6 5.1.5-

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5.1.5-1

	0	1	2	3	4	5
	#					
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"	%	%				(

"

" ! #))) # # "

" % # %

%! %"

5.1.5-2

		ppm	
	#		
	"		

NH_3 H_2S

0.00261mg/m^3 0.0000999mg/m^3

5.1.6

1

"

#)))" "

5.1.6-1

		/m	/m	/m	/h		(kg/h)
!		56	"	! "	"		(#
							)
"		60	17	! "	"		#!)
#	(	68		! "	"		#
							) !
		%	! "	(	"	NH_3	! (
						H_2S	)

#))) □

" "

$$\frac{Q_c}{C_m} = \frac{1}{A}(B \bullet L^c + 0.25r^2)^{0.50} \bullet L^D$$

#

1

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5.1.6-2

	5 (m/s)	**L m**								
		L≤1000			**1000 L≤2000**			**L 2000**		
A	<2	400	400	400	400	400	400	80	80	80
	2-4	700	470*	350	700	470	350	380	250	190
	>4	530	350	260	530	350	260	290	190	140
B	<2	0.01			0.015			0.015		

	5 (m/s)	L m		
		L≤1000	1000 L≤2000	L 2000
	>2	0.021*	0.036	0.036
C	<2	1.85	1.79	1.79
	>2	1.85*	1.77	1.77
D	<2	0.78	0.78	0.57
	>2	0.84*	0.84	0.76

470 0.021 1.85 0.84

%! □#

5.1.6-3

	/m	/m	/m		(kg/h)	m	(m)
	56	"	!"		(#	))	!
					)	()"	
	60	17	!"		#!)	( )	%
					#	! %)	
(	68		!"			((("	!
					)!	!##"#	
	%	!"	(	NH_3	!(	#)"	!
				H_2S	)	"(	

Q/Cm

6# **8#** **100** **7#**

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3.2.3-

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5.1.7

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616194.9 #

3600 # " #

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5.2-1

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		BOD_5					+ + A/O + +			
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5.2-2

			t/a						mg/L
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5.2-3

			/ mg/L	/ kg/d	/ t/a
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5.2-4

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5.3

5.3.1

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$$L_{p(r)} = L_w + D_c - A$$

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

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$$L_A(r) = 10\lg\left[\sum_{i=1}^{8} 10^{0.1L_{pi(r)} - \Delta L_i}\right]$$

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1 1

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

"

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$$L_{p2} = L_{p1} - (TL + 6)$$

#

$$L_{eqg} = 10\lg\left(\frac{1}{T}\sum_{i} t_i 10^{0.1L_{Ai}}\right)$$

1

1 1 1

$$L_{eq} = 10\lg\left(10^{0.1L_{eqg}} + 10^{0.1L_{eqb}}\right)$$

1

1

5.3.2

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5.3-1

	/m				**dB(A)**	**dB(A)**	
	!	)	! "		%"	%	
	!	)	! "		%"	%%	
	(#		! "		(#	%	
	(#		! "		(#	%%	
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	(#	!(	! "		%#"	%	
	(#	!(	! "		%#"	%%	

5.4.2-1

t/a

5.4.3

1 400m^2 1 120m^2

1 100m^2

8#

100m^2

5.4.4

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5.4.4-1

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5.4.5

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0.5m 1.0×10^{-7}

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5.5

5.5.1

3300m

1

5

1 20

0.40-0.60m

2

1.00~1.80m 0.4~0.6m 4.83MPa

1.846MPa 140KPa

3

3.70~5.20m 1.5~2.3m

5.67MPa 4.771MPa 180KPa

4 ~

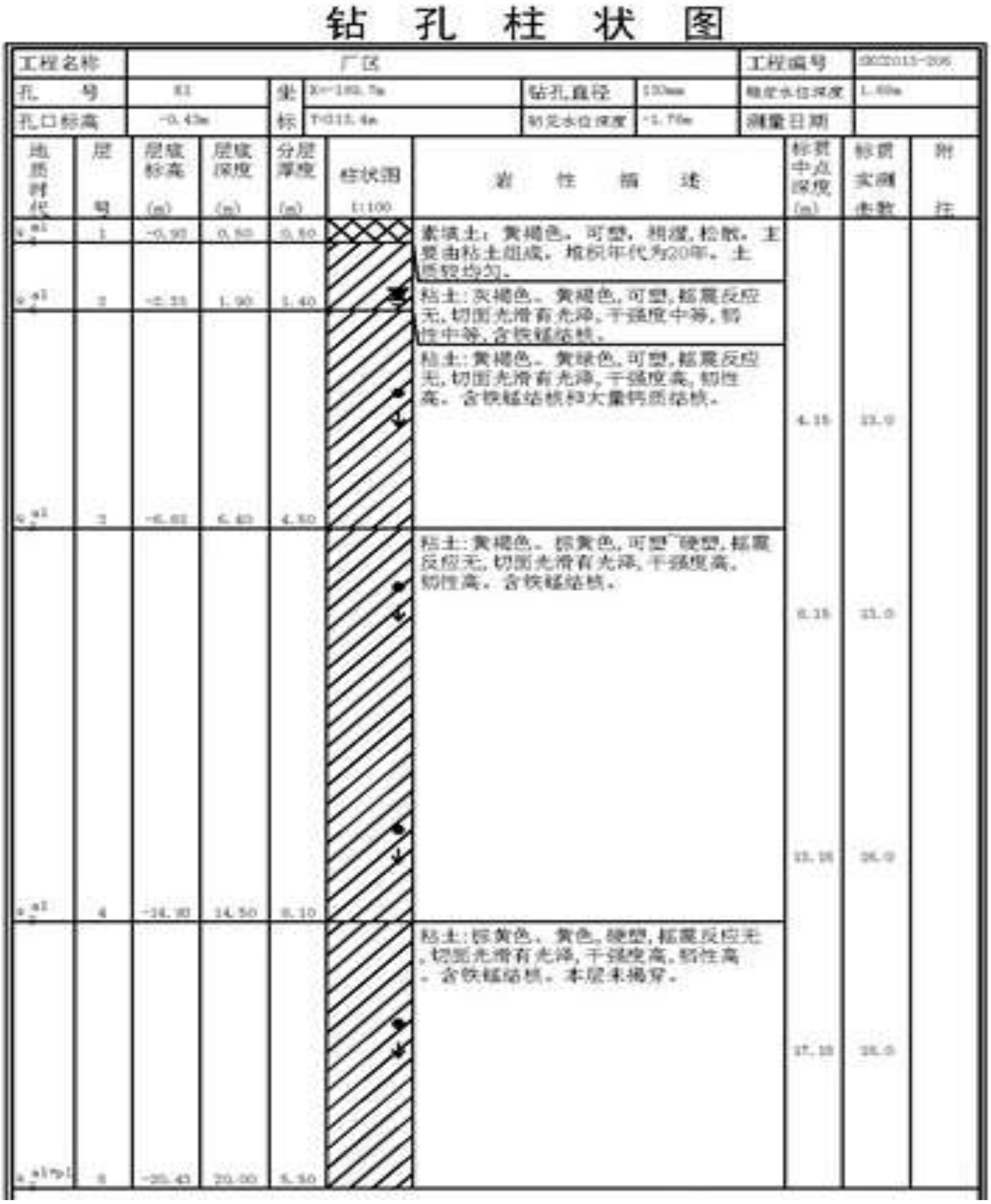
7.70~9.20m 5.5~7.1m 8.22MPa

3.286MPa 200KPa

5

14.3~15.1m 200Kpa

13.55MPa



5.5.1-1

5.5.1-2

2

HJ610-2016

1.4~1.7m

1.40-2.40m

1.4~1.7m

1.40 1.73m 3 5 0.60m

1.80m

1.20

1.40~2.40m

5.5.1-2

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5.5.2

5.5.2.1

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5.5.2.2

HJ 610-2016

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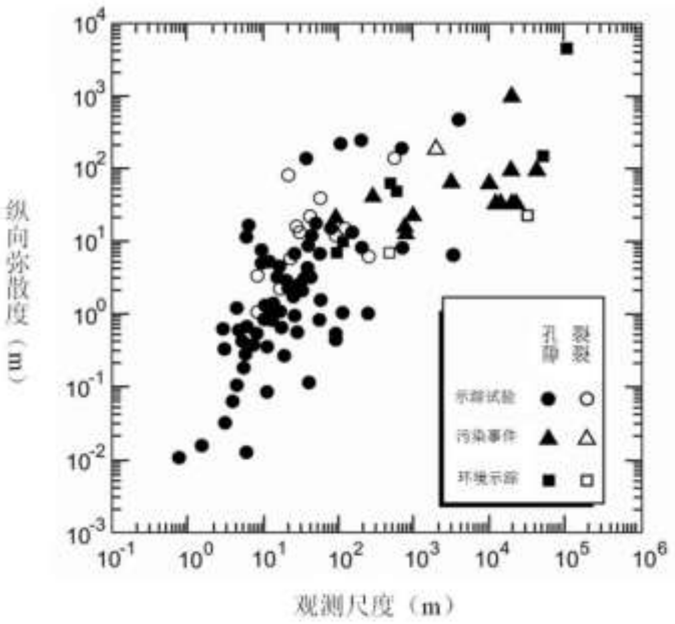

5.5.2-1

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5.5.2-2

				m			
	m/d	**‰**		**α_L**	**α_t**	**U m/d**	**D_L m^2/d**
	!	!		!	!	" %! □	!) ! □#

5

"" (mg/L

((□" ! 3.0mg/L

500d 1000d 5000d 5.5.2-3

5.5.2-4

5.5.2-3 **mg/L**

t/d	x/m							
	0	2	4	8	10	20	30	40
500	220.8	31.6	0.73	0.001	0.001	0.001	0.001	0.001
1000	220.8	67.8	8.89	0.008	0.001	0.001	0.001	0.001
5000	220.8	147.7	87.3	17.9	6.08	0.0013	0.001	0.001

5.5.2-4

t	x/m
	0

mg/L	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

5.6

5.6.1

"

5.6.2

"

% □!

5.6-1

		%

5.6-2

	3.37867 hm²	

5.8

5.8.1

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5.8.2

5.8.2.1

!

$$Q_L = C_d A\rho\sqrt{\frac{2(P-P_0)}{\rho}+2gh}$$

Q_L kg/s

P Pa

P_0 Pa

kg/m^3

g 9.81m/s^2

h m

C_d 5.8.2-1

A m^2

5.8.2-1 Cd

Re			
!	%		%%
!	%	%	

10min

2

$$F_v = \frac{C_p(T_T - T_b)}{H_v}$$

$$Q_1 = Q_L \times F_v$$

F_v

T_T K

T_b K

H_v J/kg

C_p J/ kg·K

Q_l kg/s

Q_L k/s

$$Q_2 = \frac{\lambda S (T_0 - T_b)}{H \sqrt{\pi \alpha t}}$$

Q_2 kg/s

T_0 K

T_b K

H J/kg

t s

5.11.2-3 W/ m·K

S m^2

5.8.2-2 m^2/s

5.8.2-2

	λ/[W/ m·K]	α/ m²/s
	! !	! ") ! □
(	)	# ! □
	#	" # ! □
		# # ! □
	" %	! ! ! □

$$Q_3 = \alpha p \frac{M}{RT_0} u^{\frac{(2-n)}{(2+n)}} r^{\frac{(4+n)}{(2+n)}}$$

Q_3 kg/s

p Pa

R J/ mol·K

T_0 K

M kg/mol

u m/s

r m

n 5.8.2-3

5.8.2-3

	n	α
	#	%" (% ! #

$$W_p = Q_1 t_1 + Q_2 t_2 + Q_3 t_3$$

W_p kg

Q_1 kg/s

Q_2 kg/s

Q_3 kg/s

t_1 s

t_2 s

t_3 s

30min

3

HJ169-2018

5.8.2-4

5.8.2-4

		! %
		" %
		%
		#

%("□%

5.8.2-5

		kg	m^2	kg/s	
1		170	70	1.9127E-02	
2		200	70	1.5426E-02	

%("□

5.8.2-6

		CAS	-1 / mg/m^3	-2 / mg/m^3
1		108-88-3	14000	2100
2		7664-93-9	160	8.7

!)□" !(

1 1

%("□

5.8.2-7

1		HJ169-2018	AFTOX
2			SLAB

SLAB 5.8.2-8

5.8.2-8

!				""
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5.8.2-9

(m)	**(min)**	**(mg/m^3)**
10	0.083333	2.59E-06
20	0.16667	1.3253
30	0.25	21.441
40	0.33333	55.096
50	0.41667	79.713
60	0.5	91.703
70	0.58333	95.226
80	0.66667	94.304
90	0.75	91.376
100	0.83333	87.672
150	1.25	69.027
200	1.6667	54.271
250	2.0833	43.19
300	2.5	34.952
350	2.9167	28.782
400	3.3333	24.089
450	3.75	20.456

500	4.1667	17.595
600	5	13.443
700	5.8333	10.634
800	6.6667	8.6452
900	7.5	7.1832
1000	8.3333	6.0757
1100	9.1667	5.2154
1200	10	4.5328
1300	10.833	3.9816
1400	11.667	3.5294
1500	12.5	3.1993
1600	13.333	2.9401
1700	14.167	2.7155
1800	15	2.5193
1900	15.833	2.3466
2000	16.667	2.1936
2100	17.5	2.0573
2200	18.333	1.9351
2300	19.167	1.8251
2400	20	1.7255
2500	20.833	1.6351
2600	21.667	1.5526
2700	22.5	1.4772
2800	23.333	1.4079
2900	24.167	1.3442
3000	25	1.2853
3100	25.833	1.2307
3200	26.667	1.1801
3300	27.5	1.1331
3400	28.333	1.0892
3500	29.167	1.0482
3600	30	1.0098
3700	34.833	0.97376
3800	35.667	0.93996
3900	36.5	0.90816
4000	37.333	0.87819
4100	38.167	0.84991
4200	39	0.82319
4300	39.833	0.7979
4400	40.667	0.77393
4500	41.5	0.7512
4600	42.333	0.72961

4700	43.167	0.70908
4800	44	0.68954
4900	44.834	0.67092
5000	46.667	0.65316

5.8.2-10

		(mg/m^3)	X (m)	X (m)	(m)	X m
	!	!				
	"	" !				

5.8.2-11

5.8.2-12

5.8.2-11

(m)	**(m)**	**(mg/m^3)**
10	**36**	**4.95E+03**
20	72	3.87E+03
30	106	3.14E+03
40	138	2.57E+03
50	162	2.02E+03
60	186	2.26E+03
70	198	1.37E+03
80	208	1.16E+03
90	216	1.05E+03
100	222	9.64E+02
110	226	8.69E+02
120	230	7.94E+02
130	234	7.33E+02
140	236	6.78E+02
150	238	6.28E+02
160	240	5.86E+02
170	242	5.49E+02
180	242	5.13E+02
190	244	4.82E+02
200	246	4.54E+02
210	246	4.30E+02
220	248	4.06E+02
230	248	3.85E+02
240	248	3.65E+02
250	250	3.47E+02
260	250	3.30E+02
270	250	3.14E+02
280	252	2.99E+02
290	252	2.85E+02
300	252	2.72E+02

310	252	2.60E+02
320	254	2.49E+02
330	254	2.39E+02
340	254	2.30E+02
350	254	2.21E+02
360	254	2.13E+02
370	254	2.05E+02
380	254	1.97E+02
390	256	1.90E+02
400	256	1.84E+02
410	256	1.78E+02
420	256	1.72E+02
430	256	1.67E+02
440	256	1.62E+02
450	256	1.57E+02
460	256	1.53E+02
470	256	1.48E+02
480	258	1.44E+02
490	258	1.40E+02
500	258	1.36E+02
510	258	1.32E+02
520	258	1.28E+02
530	258	1.25E+02
540	258	1.22E+02
550	258	1.19E+02
560	258	1.16E+02
570	258	1.13E+02
580	258	1.11E+02
590	258	1.08E+02
600	258	1.06E+02
610	258	1.03E+02
620	258	1.01E+02
630	258	9.84E+01
640	258	9.62E+01
650	258	9.41E+01
660	258	9.21E+01
670	258	9.01E+01
680	258	8.82E+01
690	258	8.64E+01
700	258	8.47E+01
710	258	8.30E+01
720	258	8.15E+01
730	258	7.99E+01
740	258	7.85E+01
750	258	7.70E+01
760	258	7.56E+01
770	258	7.41E+01
780	258	7.27E+01
790	258	7.13E+01
800	258	7.00E+01
810	258	6.87E+01
820	258	6.75E+01

830	256	6.63E+01
840	256	6.51E+01
850	256	6.40E+01
860	256	6.29E+01
870	256	6.18E+01
880	256	6.08E+01
890	256	5.98E+01
900	256	5.88E+01
910	256	5.79E+01
920	256	5.70E+01
930	256	5.61E+01
940	256	5.53E+01
950	254	5.45E+01
960	254	5.37E+01
970	254	5.29E+01
980	254	5.21E+01
990	254	5.13E+01
1000	254	5.05E+01
1010	254	4.97E+01
1020	254	4.89E+01
1030	254	4.82E+01
1040	252	4.75E+01
1050	252	4.68E+01
1060	252	4.61E+01
1070	252	4.55E+01
1080	252	4.48E+01
1090	252	4.42E+01
1100	252	4.36E+01
1110	250	4.30E+01
1120	250	4.24E+01
1130	250	4.18E+01
1140	250	4.13E+01
1150	250	4.07E+01
1160	250	4.02E+01
1170	248	3.97E+01
1180	248	3.92E+01
1190	248	3.87E+01
1200	248	3.82E+01
1210	248	3.77E+01
1220	248	3.73E+01
1230	246	3.68E+01
1240	246	3.64E+01
1250	246	3.60E+01
1260	246	3.55E+01
1270	246	3.51E+01
1280	246	3.46E+01
1290	244	3.42E+01
1300	244	3.38E+01
1310	244	3.34E+01
1320	244	3.30E+01
1330	242	3.26E+01
1340	242	3.22E+01

1350	242	3.18E+01
1360	242	3.14E+01
1370	242	3.11E+01
1380	240	3.07E+01
1390	240	3.03E+01
1400	240	3.00E+01
1400	240	3.00E+01
1410	240	2.97E+01
1420	238	2.93E+01
1430	238	2.90E+01
1440	238	2.87E+01
1450	238	2.84E+01
1460	238	2.81E+01
1470	236	2.78E+01
1480	236	2.75E+01
1490	236	2.72E+01
1500	236	2.69E+01
1510	234	2.66E+01
1520	234	2.64E+01
1530	234	2.61E+01
1540	234	2.58E+01
1550	232	2.56E+01
1560	232	2.53E+01
1570	232	2.51E+01
1580	230	2.48E+01
1590	230	2.46E+01
1600	230	2.44E+01
1610	230	2.41E+01
1620	228	2.39E+01
1630	228	2.36E+01
1640	228	2.34E+01
1650	226	2.32E+01
1660	226	2.29E+01
1670	226	2.27E+01
1680	226	2.25E+01
1690	224	2.23E+01
1700	224	2.20E+01
1710	224	2.18E+01
1720	222	2.16E+01
1730	222	2.14E+01
1740	222	2.12E+01
1750	220	2.10E+01
1760	220	2.08E+01
1770	220	2.06E+01
1780	218	2.04E+01
1790	218	2.02E+01
1800	218	2.00E+01
1810	216	1.98E+01
1820	216	1.97E+01
1830	216	1.95E+01
1840	214	1.93E+01
1850	214	1.91E+01

1860	214	1.90E+01
1870	212	1.88E+01
1880	212	1.86E+01
1890	210	1.85E+01
1900	210	1.83E+01
1910	210	1.82E+01
1920	208	1.80E+01
1930	208	1.79E+01
1940	208	1.77E+01
1950	206	1.76E+01
1960	206	1.74E+01
1970	204	1.73E+01
1980	204	1.71E+01
1990	204	1.70E+01
2000	202	1.69E+01
2010	202	1.67E+01
2020	200	1.66E+01
2030	200	1.65E+01
2040	200	1.63E+01
2050	198	1.62E+01
2060	198	1.61E+01
2070	196	1.60E+01
2080	196	1.58E+01
2090	194	1.57E+01
2100	194	1.56E+01
2110	194	1.54E+01
2120	192	1.53E+01
2130	192	1.52E+01
2140	190	1.51E+01
2150	190	1.49E+01
2160	188	1.48E+01
2170	188	1.47E+01
2180	186	1.46E+01
2190	186	1.45E+01
2200	184	1.44E+01
2210	184	1.42E+01
2220	182	1.41E+01
2230	182	1.40E+01
2240	180	1.39E+01
2250	180	1.38E+01
2260	178	1.37E+01
2270	178	1.36E+01
2280	176	1.35E+01
2290	176	1.34E+01
2300	174	1.33E+01
2310	174	1.32E+01
2320	172	1.31E+01
2330	172	1.30E+01
2340	170	1.29E+01
2350	168	1.28E+01
2360	168	1.27E+01
2370	166	1.26E+01

2380	166	1.25E+01
2390	164	1.24E+01
2400	164	1.24E+01
2410	162	1.23E+01
2420	160	1.22E+01
2430	160	1.21E+01
2440	158	1.20E+01
2450	156	1.19E+01
2460	156	1.18E+01
2470	154	1.18E+01
2480	154	1.17E+01
2490	152	1.16E+01
2500	150	1.15E+01
2510	150	1.15E+01
2520	148	1.14E+01
2530	146	1.13E+01
2540	146	1.12E+01
2550	144	1.12E+01
2560	142	1.11E+01
2570	140	1.10E+01
2580	140	1.09E+01
2590	138	1.09E+01
2600	136	1.08E+01
2610	134	1.07E+01
2620	134	1.07E+01
2630	132	1.06E+01
2640	130	1.05E+01
2650	128	1.05E+01
2660	126	1.04E+01
2670	126	1.03E+01
2680	124	1.03E+01
2690	122	1.02E+01
2700	120	1.01E+01
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5.8.2-12

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5.8.2-13

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FQ-2 29.35t/a 17.27t/a

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DB32/4041-2021 1

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+ + 15m FQ-03

5.833t/a 4 40000m^3/h

98% 90% FQ-#

5.716t/a 0.5716t/a

DB32/4041-2021 1

6 6

1 10000m^3/h 99% 3

/ +RTO 6 2

/ +RTO 15m

FQ-04 FQ-05 97%

427.5t/a FQ-

211.61t/a

6.35t/a FQ-% 211.61t/a

6.35t/a

RTO # m^3/a

- HJ953-2018

F.3 FQ-04 SO_2 NO_X

0.0103t/a 0.0072t/a 0.0674t/a FQ-05 SO_2 NO_X 0.0103t/a

0.0072t/a 0.0674t/a

DB32/4041-2021

1 SO_2 NO_x

DB32/3728-2020 1

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DB32/4041-2021 1

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DB32/4041-2021 1

RTO # m^3/a

- HJ953-2018

F.3 FQ-0 SO_2 NO_X

0.0103t/a 0.0072t/a 0.0674t/a

DB32/4041-2021 1

SO_2 NOx

DB32/3728-2020 1

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0.648t/a 0.0251t/a 12000m^3/h

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80% FQ- (0.127t/a 0.00492t/a

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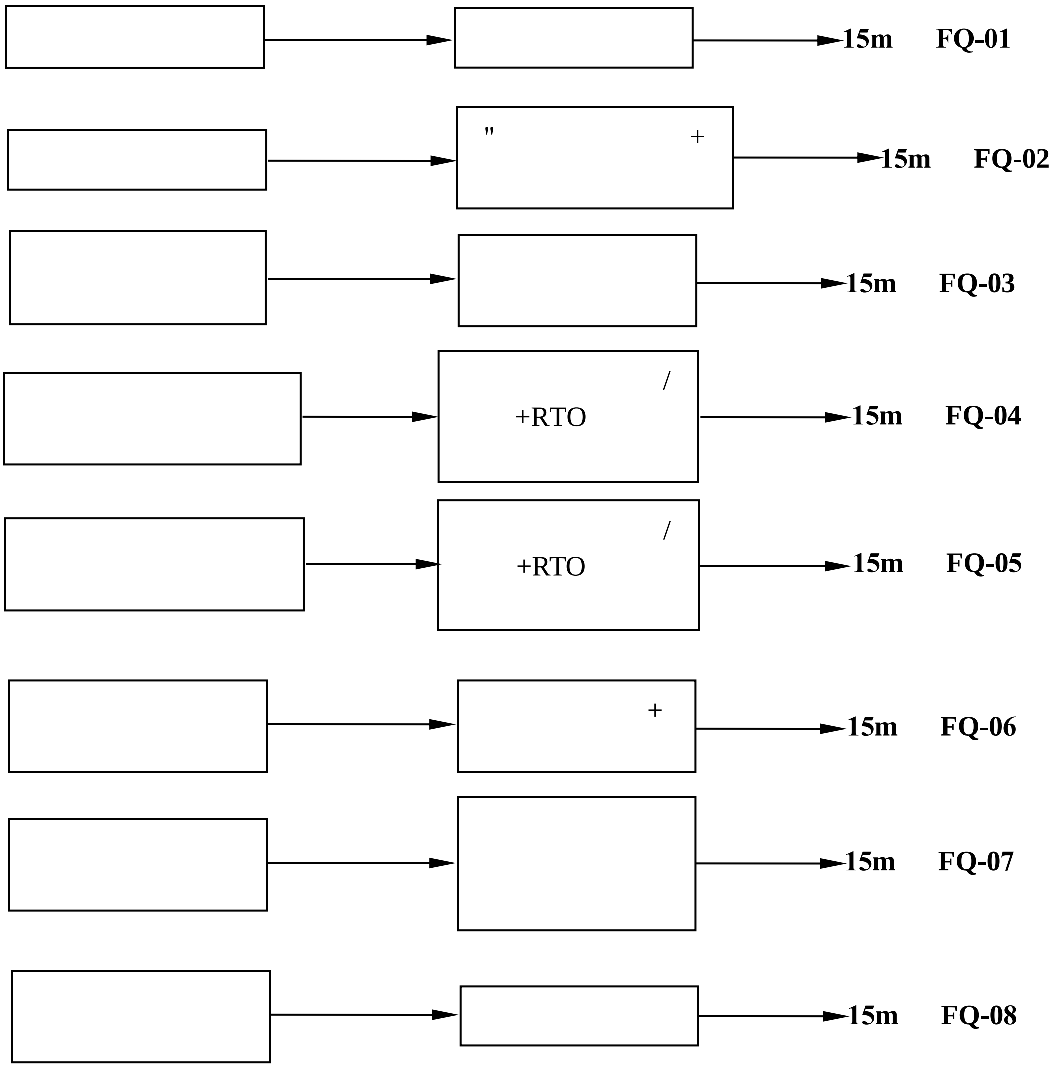

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6.1.2-1

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HJ 978-2018

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6.1.2-2

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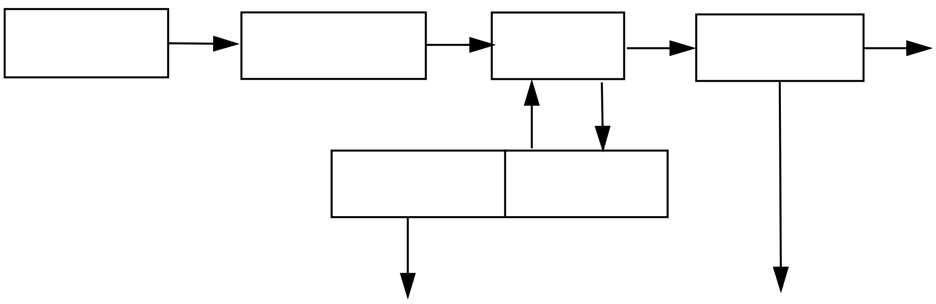

6.1.2-2

160 180

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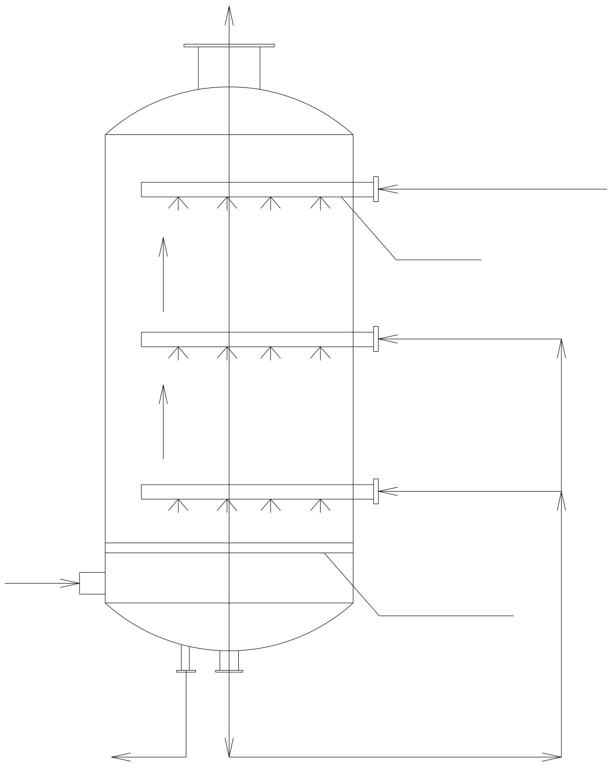
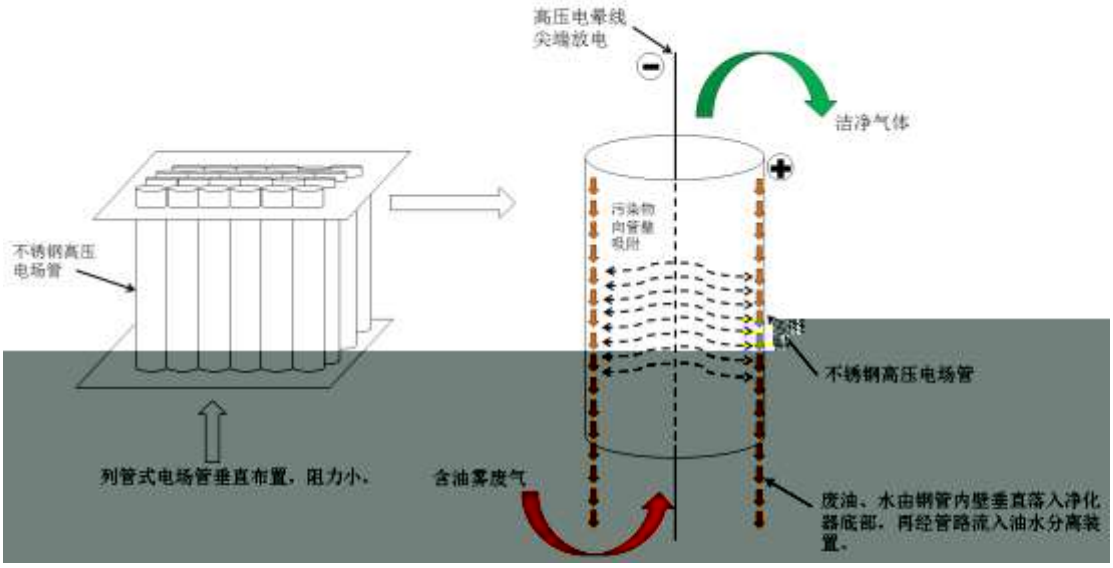


6.1.2-3

8mm 12mm

6.1.2-4



6.1.2-4

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6.1.2-3

6.1.2-3

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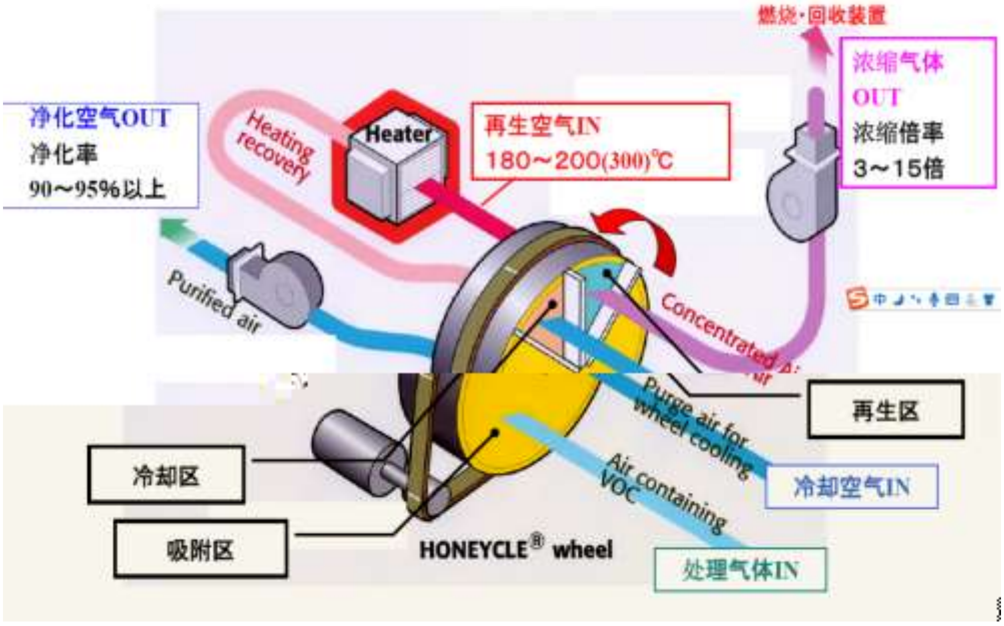

6.1.2-5

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6.1.2-6 RTO

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6.1.2-4 RTO

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6.1.2-5 RTO

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RTO RTO 6.1.2-6

6.1.2-6 RTO

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99.2% 6.1.2-7

[illegible]

CTI 华测检测

检 测 结 果

报告编号 [illegible]　　第 3 页 共 6 页

[illegible]

CTI 华测检测

检 测 结 果

报告编号 A2210278201101CQb　　第 4 页 共 6 页

表 2:

样品信息:

样品类型	工业废气（有组织）	采样人员	汪其、龚晨凯
采样日期	2021-07-31	检测日期	2021-07-31~2021-08-04
采样方式	连续/瞬时	样品状态	完好

检测结果:

点位名称	检测项目	样品编号	排放浓度 mg/m³	排放速率 kg/h	标干流量 m³/h	排气筒高度 m
有组织废气出口	丁酮	SUN73048013	ND	/	39249	20
		SUN73048014	ND			
		SUN73048015	ND			
		平均值	ND			
	乙醇	SUN73048010	ND	/	39249	
		SUN73048011	0.6			
		SUN73048012	ND			
		平均值	ND			

烟气参数:

烟气参数	烟温℃	流速 m/s	大气压 kPa	截面 m²	标干流量 m³/h
SUN73048010/013	131	13.7	99.2	1.3273	39923
SU[illegible]					

[illegible] 小于检出限，故排放速率无法计算

[illegible]

本页完

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烟气参数:

[illegible]

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CTI 华测检测
CENTRE TESTING INTERNATIONAL

检 测 结 果

报告编号 A2210278201101CQa

第 4 页 共 8 页

检测结果:

6.1.2-7 RTO

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6.1.2-7

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15m GB14554-93

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15m/s

15.0~15.7m/s

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GB/T16157-1996

6 3

D 2AB/(A+B) A B

80mm 50mm

40mm

1.5m² 1.1m 1.2-1.3m

6.1.6

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6.1.6-1

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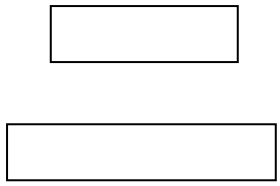

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6.2.1-4

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6.2.1-5

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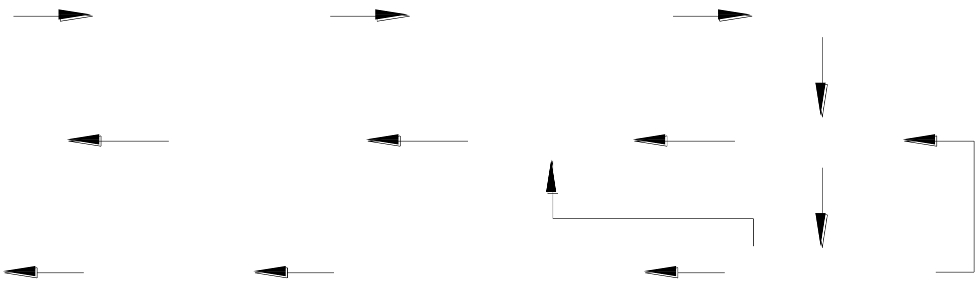

6.2.2-1

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8.2.3-1

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8.2.3-2

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8.2.3-3

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8.2.3-4

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8.2.3-5

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8.2.3-6

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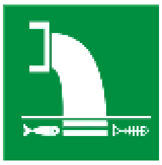
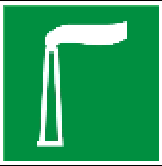
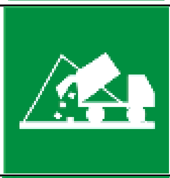
!				
"				
#				
				
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