山东朗格环保工程有限公司

Shandong Lange Environmental Protection Engineering Co., Ltd

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5 4.5 6 /

6 4.5 6 /

7 4.5 6 /

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9

10

11

12

13

14 2 × 130t/h

15 5

16 5

17 2 × 24MW

18 2 × 24MW

19

20

21 1-2

22

23

24 3 × 130t/h

25 $5 \times 130t/h$

26 $5 \times 130t/h$

27

28

29

30

31

32

3

4

2022 1

- HJ2.1-2016

4

2022 1 2022 5

(2019)

2201-371526-04-01-335282

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3

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GB12348-2008 3

GB3096-2008

2

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1.1

1.1.1

1 2015 1 1

2 2016 9 1 2018 12 29

3 2018 10 26

4 2017 6 27 2018 1
1

5 2022 6 5

6 2020 4 29

7 2019 1 1

8 2011 3 1

9 2012 7 1

10 2018 10 26

11 2018 10 26

12 2020 1 1

13 [2013]37 2013 9
10

14 645 2013 12 7

15 31 2015 1 1

16 [2015]4 <
> 2015 1 8

17 [2015]17 2015
4 2

18 34 2015 6 5

19 [2016]45

2016 4 15

20 [2016]31

2016 5 28

21 [2016]150

2016 10 26

22 [2016]81

2016 11 10

23 42 2016 12 31

24

2017 2 7

25 682 2017 10 1

26 [2017]84

2017 11 14

27 [2018]11

2018 1 25

28 [2018]266

2018 5 10

29 [2018]17

2018 6 16

30 4 2019 1 1

31 2019 4

2018 2019 1 23

32 2019 8 <

2019 > 2019 2 27

33 [2019]17 < >

2019 3 1

34 [2019]25 2019

3 28

35 [2019]56 < >

2019 7 9

36 2019 28

2019 7 23

37 [2019]719

2019 9 2

38 [2019]92

2019 10 15

39 29 2019 2019

10 30

40

> 2021 9 1

49 [2021]104

2015 12 31

4 [2017]176 <

2016-2020 2016 9 28

5 [2016]141

2016 9 30

6 2016 11 1

7 [2016]37

2016 12 31

8 2017 5 1

9 [2017]561

2017 9 19

10 67

2018 1 23

11 47 <

> 2018 1 23

12 105

2018 1 23

13 < > 2018 1

23

14 107

2018 1 23

15 227 2018

1 24

16 248 2012

1 4 2018 1 24

17 311 <

> 33 2018 1 24

18 [2018]90

2018 4 24

19 [2018]166

2018-2020 2018 8 2

20 [2018]190 <

> 2018 8 6

21 [2018]5 <

> 2018 11 8

22 99 2018 11

30 2019 1

1

23 [2019]29

2019 2 8

24 [2019]58

2019 3 24

25 [2019]112

2019 5 8

26 [2019]113

2019 5 28

27 [2019]126

2019 8 2

28 [2019]132

2019 9 2

29 [2019]66

2019 9 20

30 [2019]26

2019 10 16

31 83

2020 1 1

32 [2020]5

2020 1 16

33 [2020]6

48 [2021]8 <

> 2021 11 13

49 [2021]249

2021 11 19

50 [2021]9 2021-2022

2021 11 25

51 [2022]1

2022 4 3

52 11

2018.1.2

53 16

2018.8.30

54 [2019]6 <

>

55 [2019]7 <

>

56 [2019]19 <

>

57 [2019]39 <

> 2019 7 17

58 [2020]3

2020 01 17

59 [2020]8

2020 2020 4 10

60 [2020]17

61 [2020]49

2020 10 29

62 [2020]65

63 [2021]6

2021 05 21

64 [2022]2

2022 01 21

65 [2018]62

2019.12.25

66 [2019]30

2019.10.18

67 [2019]29

2019.10.18

68 [2021]34

2020.11.11

69 [2021]3

(2021.4.9)

1.1.3

1 HJ2.1-2016

2 HJ2.2-2018

3 HJ2.3-2018

4 HJ610-2016

5 HJ2.4-2009

6 HJ964-2018

7 HJ169-2018

8 HJ19-2011

9 HJ2000-2010

10 HJ2015-2012

11 HJ2035-2013

12 HJ2034-2013

13 HJ589-2010

14 HJ2042-2014

15 HJ 819-2017

16 HJ942-2018

17 2021

18 2015.11

19 2016.9.26

20

21 2018-2035

1.1.4

1 1

2 2

3 3

4 4

5 4.5

6 / [2007]21

5

6 45000t/a 6

/ [2010]12 6

7 45000t/a 6

/ 7

8

[2014]49

8

9

[2018]31

9

10

[2018]96 10

11

[2018]207 11

12

[2019]7 12

13

13

14 2 130t/h

[2002]85 14

15 5

15

16 5

16

17 2 24MW

17

18 2 24MW

18

19

19

20

20

21 1-2

21

22

22

23

23

24 3 130t/h

24

25 5 130t/h

25

26 5 130t/h

26

27

27

28

28

29 29

30 30

31 31

32 31

1.2

1.2.1

1.2.2

1.2.3

1.3

1.3.1

1.3.1.1

1.3-1

1.3-1

		SS COD BOD

1.3.1.2

1.3-2

1.3-2

	VOCs SO_2 NOx	COD_{Cr} BOD_5	L_{Aeq}	

1.3.2

1.3-3

1.3-3

	SO_2 NO_2 PM_{10} $PM_{2.5}$ CO O_3 TSP	SO_2 NOx TSP PM_{10}
	pH SS COD_{Cr} BOD_5	--
	pH K^++Na^+ Ca^{2+} Mg^{2+} CO_3^{2-} HCO_3^-	--
	Leq A	Leq A

	GB/T14848-2017	
	GB3096-2008	2 3
	GB36600-2018	1 2
	GB15618-2018	1

1.4-2 mg/m^3

SO_2	0.50	0.15	0.06	GB3095-2012
NO_2	0.20	0.08	0.04	
PM_{10}		0.15	0.07	
TSP		0.30	0.20	
$PM_{2.5}$		0.075	0.035	
CO	10	4		
O_3	0.2	0.16 8		
NO_X	0.25	0.10	0.05	
	0.05			HJ2.2-2018 D
	0.2			
	0.11			
	0.2			

1.4-4

mg/L pH MPN/100mL CFU/mL

	pH						
	6.5~8.5	450	0.50	250	250	1.00	20.0

1,1-	66
-1,2-	596
-1,2-	54
	616
1,2-	1
1,1,1,2-	2.6
1,1,2,2-	1.6
	11
1,1,1-	840
1,1,2-	2.8
	2.8
1,2,3-	0.5
	0.43
	4
	270
1,2-	560
1,4-	20
	28
	1290
	1200
+	570
	640
	76
	260
2-	2256
[a]	15
[a]	1.5
[b]	15
[k]	151
	1293
[a h]	1.5
[1,2,3-cd]	15
	70
C_{10} C_{40}	4500

1.4.2

1.4-8~ 1.4-13

1.4-8

	6 DB37/801.6-2018	1 VOCs 2 3
	GB31572-2015	5

	DB37/2376-2019	1
	GB16297-1996	2
	GB14554-93	1 2
	[2019]39	NO_x
	GB/T31962-2015	GB/T31962-2015 1A
	GB12523-2011	
	GB12348-2008	3
	GB18599-2020	
	GB18597-2001 2013	

1.4-8

		mg/m^3	kg/h		
			m		
1	VOCs	60	/		

1.4-9

		mg/m^3	
1		1.0	GB16297-1996 2
2		0.2	
3		0.08	
4	VOCs		

1.5-1

			1% Pmax=4.88% 10%	
			75.65m^3/d	B
			3	
			3dB(A)	

1.6-2

28		W	116.175E	36.846N	1600	950	294	84
29		SSW	116.190E	36.830N	1690	1290	492	140
30		NE	116.214E	36.862N	1700	2360	2695	770
31		SSE	116.210E	36.830N	1710	1810	710	200
32		NE	116.211E	36.863N	1730	2390	98	28
33		NNE	116.204E	36.865N	1760	2310	945	270
34		SSE	116.208E	36.829N	1770	1760	400	114
35		N	116.199E	36.869N	1800	2290	469	134
36		WS W	116.172E	36.842N	1810	1080	693	198
37		NNE	116.210E	36.864N	1820	2460	1050	300
38		ENE	116.222E	36.851N	1830	2390	560	160
39		NE	116.212E	36.864N	1850	2500	1670	--
40		NNE	116.202E	36.867N	1860	2390	350	--
41		NE	116.219E	36.860N	1870	2550	791	226
42		NNE	116.205E	36.867N	1880	2410	300	--
43		NNW	116.191E	36.867N	1890	2340	116	33
44		NE	116.215E	36.865N	1980	2650	2205	630
45		ENE	116.224E	36.850N	2000	2520	994	284
46		W	116.170E	36.849N	2040	1500	787	225
47		NNW	116.186E	36.868N	2060	2430	850	--
48		NE	116.217E	36.865N	2150	2820	840	240
49		NNE	116.208E	36.868N	2170	2750	1610	460
50		ENE	116.226E	36.850N	2170	2770	882	252

60		ENE	116.224E	36.859N	2590	3250	578	165
61		E	116.231E	36.846N	2600	3130	400	--
62		NE	116.222E	36.865N	2600	3290	1190	340
63		S	116.191E	36.821N	2610	2270	613	175
64		E	116.231E	36.850N	2620	3170	600	--
65		NE	116.217E	36.869N	2630	3280	1500	--
66		E	116.231E	36.842N	2630	3130	1554	444
67		ENE	116.229E	36.858N	2650	3300	81	23
68		NE	116.220E	36.868N	2650	3340	420	120
69		ENE	116.231E	36.854N	2670	3280	665	190
70		SSE	116.262E	36.868N	2720	2410	150	--
71		NE	116.222E	36.867N	2730	3420	200	--
72		NW	116.172E	36.871N	2740	2710	784	224
73		ENE	116.230E	36.855N	2750	3400	1890	540
74		E	116.231E	36.847N	2770	3320	1260	360
75		S	116.193E	36.819N	2940	2560	588	168
76		NE	116.215E	36.873N	2970	3610	5355	1530
77		ESE	116.233E	36.839N	2970	3440	732	209
78		SSW	116.179E	36.822N	2970	2410	221	63
79		NE	116.231E	36.860N	2980	3660	2450	700
80		NNE	116.208E	36.875N	3010	3580	840	240
81		NNW	116.190E	36.877N	3020	3470	455	130
82		ENE	116.234E	36.852N	3020	3630	315	90
83		NE	116.226E	36.867N	3050	3750	840	240
84		NE	116.228E	36.866N	3090			

	89		SE	116.230E	36.829N	3180	3490	683	195	
	90		NNE	116.208E	36.877N	3210	3780	998	285	
	91		NE	116.232E	36.863N	3210	3900	210	60	
	92		W	116.159E	36.855N	3220	2770	546	156	
	93		NE	116.230E	36.866N	3230	3930	595	170	
	94		ENE	116.230E	36.855N	3260	3920	420	120	
	95		NE	116.225E	36.871N	3270	3950	1260	360	
	96		E	116.237E	36.844N	3290	3800	350	--	
	97		E	116.237E	36.843N	3320	3830	840	240	
	98		ENE	116.237E	36.857N	3350	4000	630	180	
	99		ENE	116.236E	36.860N	3370	4040	87	25	
	100		NE	116.222E	36.874N	3380	4050	1260	360	
	101		NE	116.224E	36.873N	3380	4060	560	160	
	102		NE	116.233E	36.865N	3380	4080	350	100	
	103		SW	116.170E	36.823N	3420	2740	308	88	
	103		ENE	116.236E	36.862N	3460	4140	280	80	
	105		ENE	116.237E	36.860N	3480	4150	300	--	
	106		SE	116.227E	36.823N	3480	3670	347	99	
	107		NE	116.224E	36.874N	3500	4170	1680	480	
	108		NE	116.235E	36.865N	3520	4210	350	100	
	109		W	116.155E	36.850N	3520	2920	592	169	
	110		NE	116.230E	36.871N	3540	4230	1134	324	
	111		ENE	116.236E	36.863N	3540	4220	455	130	
	112		ENE	116.237E	36.862N	3580	4250	168	48	
	113		ENE	116.239E	36.859N	3610	4270	2310	660	
	114		SSE	116.214E	36.815N	3610	3540	501	143	
	115		ENE	116.240E	36.855N	3620	4240	1260	360	
	116		SSW	116.179E	36.815N	3620	3130	546	156	
	117		ENE	116.238E	36.863N	3640	4320	315	90	
	118		NE	116.236E	36.865N	3670	4360	2205	630	
	119		NE	116.232E	36.870N	3680	4370	455	130	
	120		E	116.241E	36.844N	3680	4190	840	240	

121		ENE	116.242E	36.849N	3690	4250	840	240
122		SW	116.167E	36.821N	3700	3010	364	104
123		ENE	116.241E	36.858N	3710	4350	560	160
124		SE	116.236E	36.829N	3710	4050	455	130
125		ESE	116.238E	36.832N	3710	4100	728	208
126		SW	116.163E	36.824N	3770	3040	504	144
127		NW	116.159E	36.868N	3800	3630	462	132
128		NE	116.239E	36.864N	3840	4520	3430	980
129		WSW	116.163E	36.824N	3850	3110	798	228
130		NE	116.231E	36.874N	3900	4590	2310	660
131		ENE	116.243E	36.859N	3980	4620	3850	1100
132		NE	116.237E	36.870N	4030	4720	123	35
133		NNW	116.188E	36.886N	4060	4490	546	156
134		NE	116.234E	36.875N	4110	4810	840	240
135		SSE	116.210E	36.809N	4130	3970	637	182
136		NE	116.230E	36.878N	4140	4830	991	283
137		ESE	116.244E	36.823N	4170	4590	420	120
138		SE	116.233E	36.819N	4170	4370	886	253
139		NE	116.242E	36.866N	4190	4880	1050	300
140		NE	116.240E	36.870N	4220	4900	370	200
141		ENE	116.247E	36.857N	4250	4880	100	--
142		S	116.189E	36.807N	4300	3920	245	70
143		ENE	116.249E	36.851N	4310	4890	700	200
144		E	116.248E	36.843N	4310	4820	315	90
145		ENE	116.249E	36.855N	4350	4970	300	--
146		SSE	116.218E	36.809N	4350	4280	126	36
[redacted]					4370	4920	630	180
148		SE	116.234E	36.816N	4430	4590	168	48
149		NE	116.246E	36.866N	4450	5130	462	132
150		NE	116.244E	36.870N	4490	5180	1260	360
151		NNE	116.206E	36.889N	4500	5020	672	192
152		NE	116.246E	36.867N	4550	5230	525	150
153		ESE	116.250E	36.836N	4550	5010	616	176
154		SW	116.163E	36.824N	4580	3850	210	60
155		NE	116.242E	36.874N	4610	5310	3360	960
156		ESE	116.248E	36.829N	4610	5000	455	130

	157		ENE	116.252E	36.848N	4620	5160	700	200	
	158		SE	116.226E	36.809N	4660	4680	536	153	

159

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2.1

1993 5

18

2003 ISO9001

500 2016 360

19 146 2016 500 372

500 60 100 38 50

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2.1-1

2.1-1

2.1-1

“√”

1		201700	8	2005.10.17 [2005]2021	559 2005.7.6	2005.7	2006.6	[2006]137 2006.10.27		√
2	1 55	1000	1 55		2006.10.20	2006.5	2006.10	2006.12 [2006]02		√
3	2×130t/h	4500	2×130t/h	2002.4.26 0200153	[2002]85 2002.12	2003.1	2003.12	[2008]38 2008 7 2		√
4	5	4850	2 1 50MW	2003.6.25 03006892	[2004]26 2004.7.30	2004.8	2005.6			
5	2×130t/h 2×24MW	9100	2×130t/h 2×24MW	2×24MW 2003.4.15 0300339 2×130t/h 2002.6.17 [2002]02	[2008]200	2002.6	2003.12	[2010]141 2010 9		√
6		2970	1×130t/h	——	[2011]49	2013.5	2014.1	[2014]21		√
7	1-2	2849.26	1# 2#	——	[2015]16	2015.6	2016.7	[2016]6 2016 12		√
8		3288.39	2# 1 4	——	[2016]46	2016.11	2016.7			√

			SNCR							
9	3×130t/h	1300	FOSS	——	[2017]26 2017.5.26	2017.7	2017.7	2018 6		√
10	5×130t/h	2456.87	1# 2# 3# 4# 5×130t/h	2018-371526-44-03-044625	[2018]208 2018.12.21	2018.12	2018.12	2019 3		√
11		170	EPS 20	2019-371526-50-03-002920	[2019]24 2019.04.25	2019.4	2020.3	2020.4		——
8	45000 6 / [illegible]									

11		1150.87	2850		2011 7 6 [2022]18	2015.10	2017.12	2018 6		√
12		956	50		[2018]96 2018 7 20	2018.07 .21	2019.02.20	2019 3 16		√
13		650	80	2017-371526-30-03-0 72538	[2018]207 2018 12 21	2018.12	2018.12	2019 3 16		√
14		185	50		20173715260000 0255	-				

[redacted]

				68462						
20		350	5000		2006.5.10	2006.5	2007.3	2007.9.8 [2007]21		√
21		2582	1 /		2006.3.13	2006.4	2007.8	2007.9.8 [2007]22		√
22	15	74676	15		[2009]137 [2011]174	2010.2	2011.7	2019 8 27		**2011** √
23	15				[2014]37	2014.8				**2015** √
24	15 VOC	5000	VOC		[2019]56 2019.07.18	2019.08	2019.08	2019.08.27		√
25	10	65491.6	10 130		2012.6.27 [2012]10	2014.12	2016.2	2016.10.9 [2016]25		√
26	VOCs	3053.8	VOCs		[2018]209	2018.12	2019.01	2019.03.16		√
27	20 /	20000	20	2020-371526-41-03-001799	[2020]3					——

28	20	987	20	2020-371526-41-03-135626	[2020]212			——

2.2

2.2.1

4.5

2.1-1

45000t/a 6 /

2.1-1

913715261682127528005U

913715261682127528001P

2.2.2

2.2-1

2.2-1

45000t/a 6 /	6	45000t	45~50%
	6	20500t	90%
	6	35000t	55~60%
		30	--
		62	--
		20	--
		1.8	--
		84	--
		100	--
		50	--
		80 m^2	--

		50	--
		1500	--
		450	--

2.2.3

2.2-2

2.2-2

	45000t/a 6 /	3 2
		1 1 1 1
		1
		1

4.5

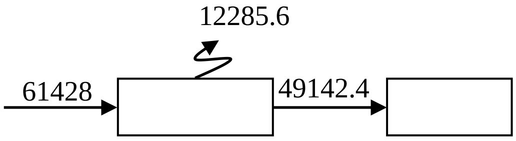
		1
		2 1 1
		8 1 2 1 170m^3 2 515m^3 2 1000m^3
		2 2.0m^3
		2 2.0m^3

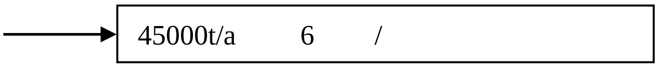
4.5

			UV 1 15m DA007
			1 44m DA025 1 30m DA024 20m DA018 25m DA029
		45000t/a 6 /	
			/ /

4.5

[redacted]





2.2-2 m^3/a

2.2.5.2

2.2.5.3

2.2.5.4

2.2-4

2.2-4

			m	m	m^3	t
	4		6.0	6.1	170	612
	2		10	12.8	1000	1800
	2		8.1	10	515	—
	2		1.3	1.6	2.0	0.74
	2		1.3	1.6	2.0	0.88

2.2.6

2.2.6.1 45000t/a 6 /

2.2.6.1.1

1

90

68~71 270 G1-1

G1-2 S1-12

G1-1 G1-2 1 40m

DA012 DA022 DA017

2

-

f

10%

4

0.06%

2

5

70%

80~85%

G1-6

1 40m

DA012 DA022 DA017

S1-5

2.2.6.1.2

1

20Mpa

G1-7

2

2

G1-8

25m DA026 DA023

S1-6

3

190

G1-9

20~25

S1-7

15m DA028 DA027

4

S1-8 S1-12

2.2.6.1.3

S1-9

2.2.6.1.4

20~30

\- 1.3~2.3

pH 25

G1-10 G1-11

G1-16

1

30m DA013 DA019

G1-12

30m DA013 DA019

G1-13

G1-14 G1-15 G1-13 G1-14 G1-15

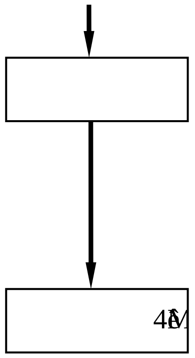
35m DA014 DA015 DA020

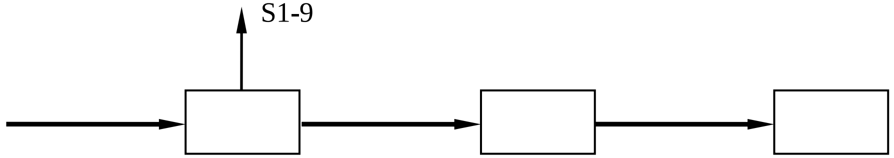
DA016 DA021 S1-10

S1-12

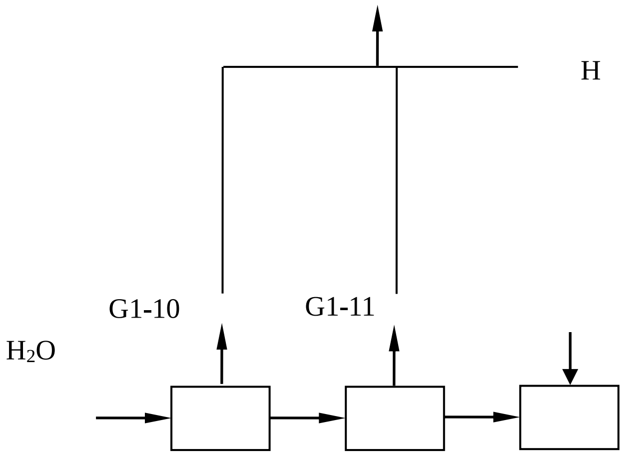
2.2-3


G1-3





2.2-3 3



2.2-3 4

2.2.6.2

2.2.6.2.1

2.2-4~2.2-6

2.2-4

2.2.6.4

1

/ /

60~110

2

150 160

165 175 180 30

3

/ /

4

5

2.2-8

3

4

8m^3

1

8m^3 SS

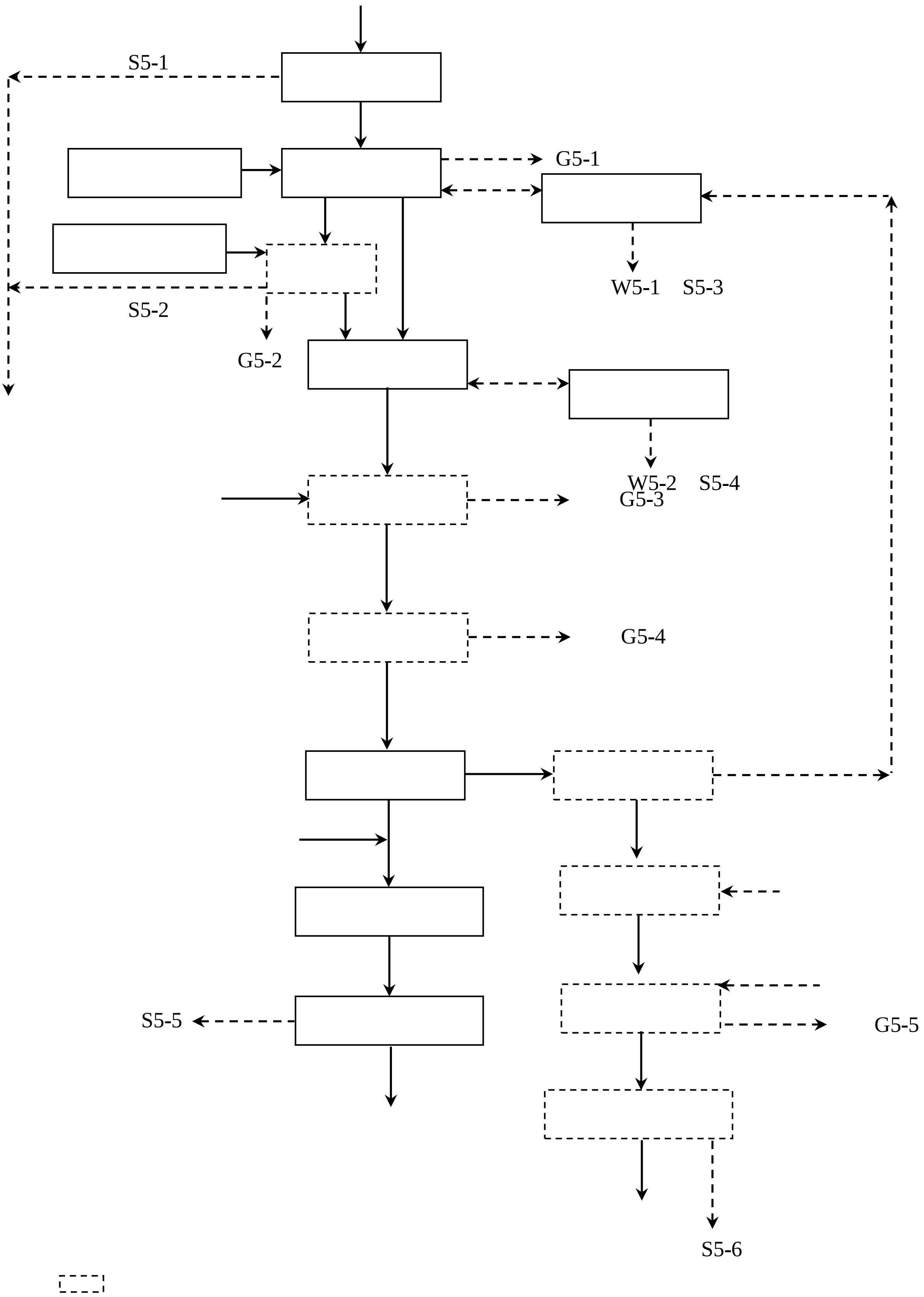
5

6 700

7

8

2.2-9

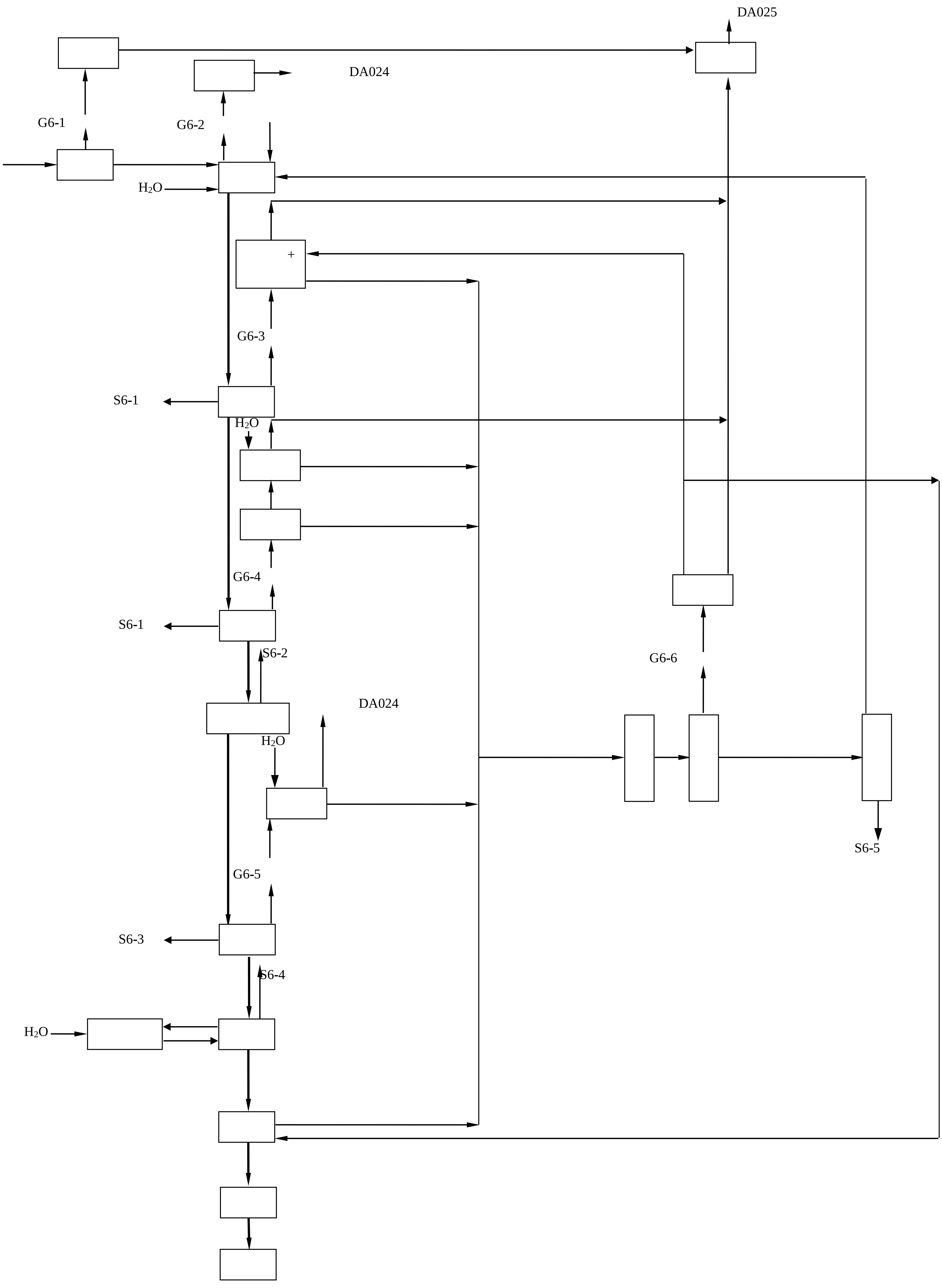


2.2-9

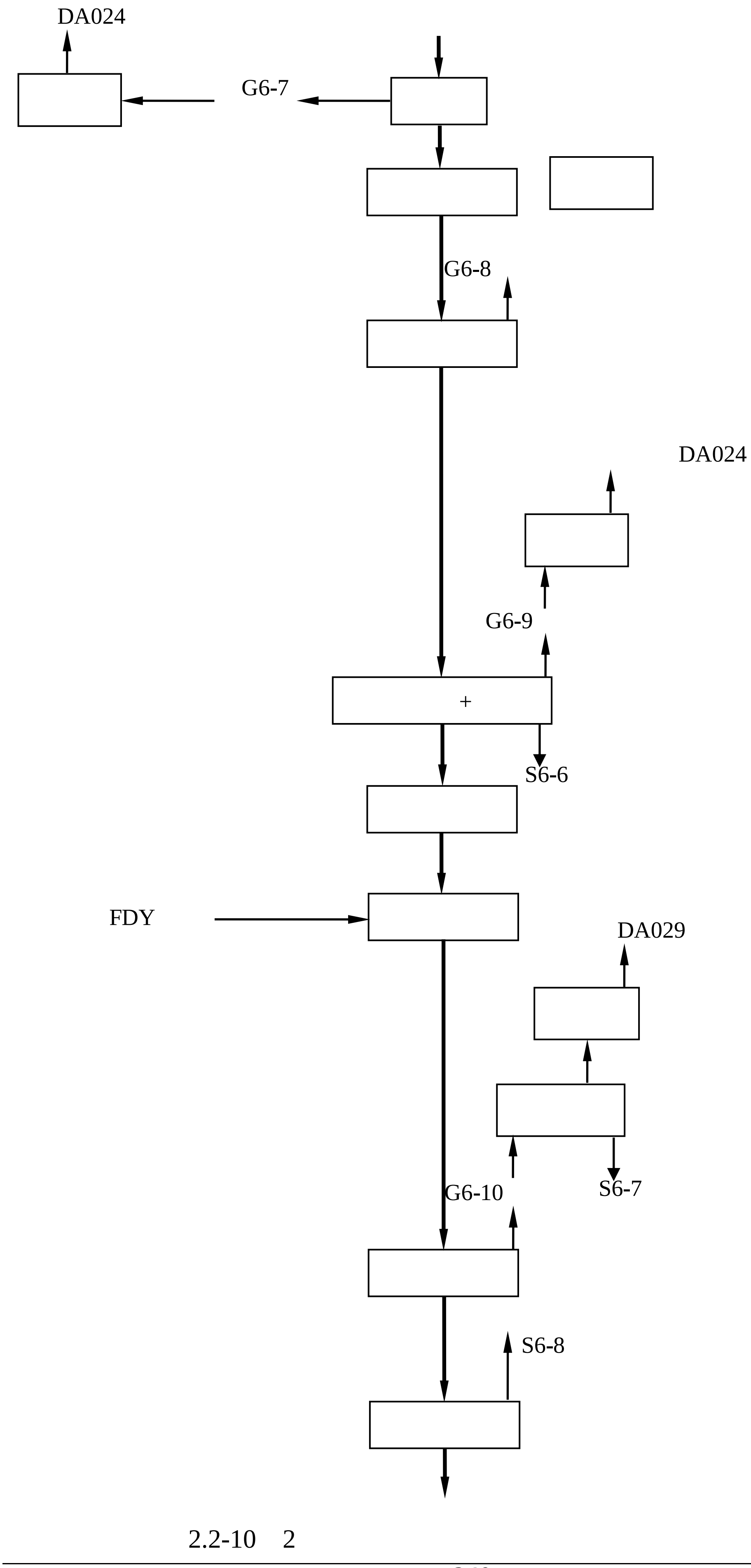
2.2.6.6

“ -

2.2.6.6


DA025
DA024
G6-1
G6-2
H₂O
+
G6-3
S6-1
H₂O
G6-4
S6-1
S6-2
G6-6
DA024
H₂O
G6-5
S6-5
S6-3
S6-4
H₂O

2.2-10　1



2.2-10 2

2.2.7

2.2.7.1

2.2.7.1.1

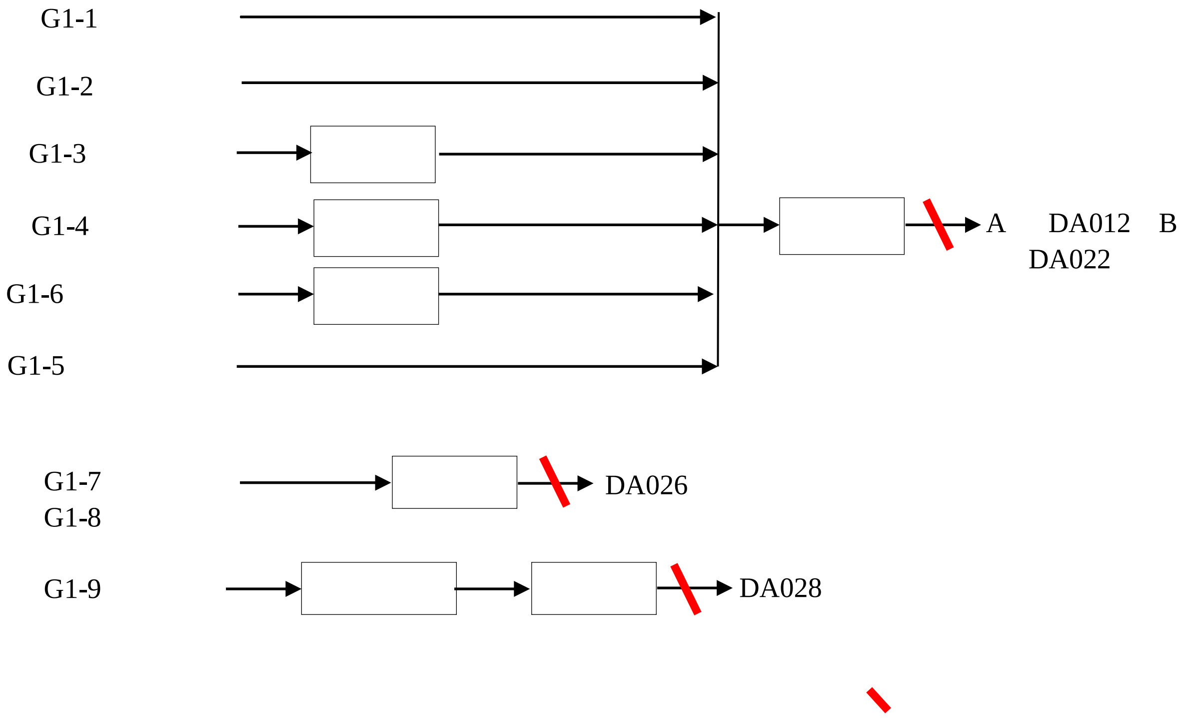
45000t/a 6 /

2.2-5

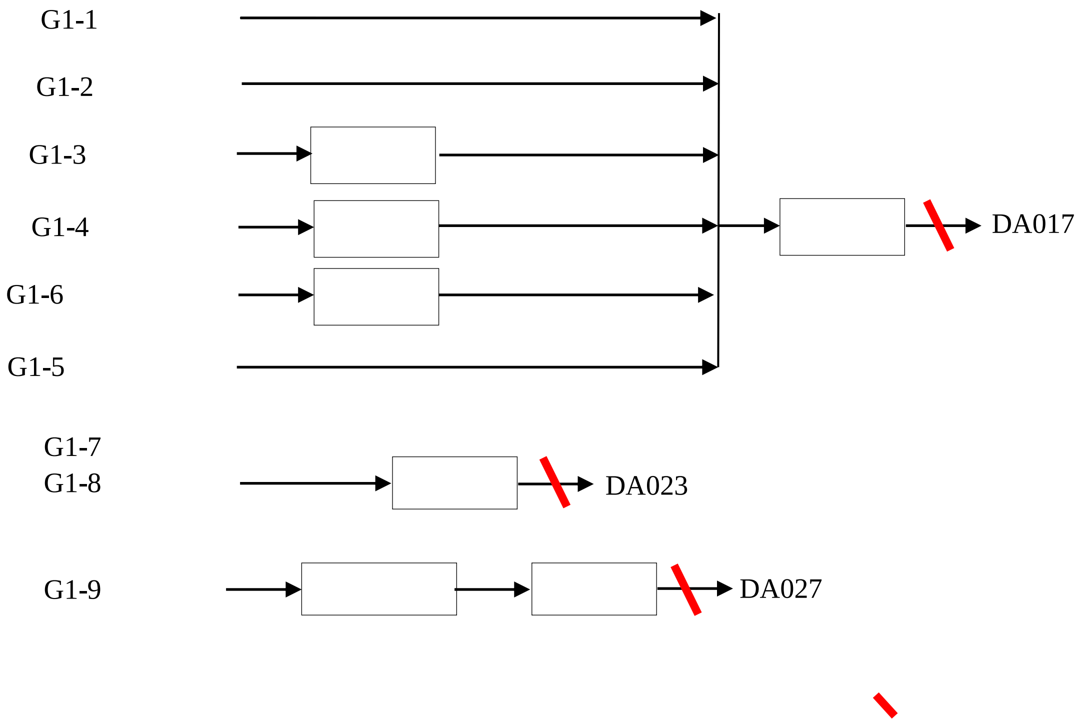
2.2-5

G1-1			1 40m DA012 DA022 DA017
G1-2			
G1-3			
G1-4			
G1-6			
G1-5			
G1-7			25m DA026 DA023
G1-8			
G1-9			15m DA028 DA027
G1-12			30m DA013 DA019
G1-10			
G1-11			
G1-16			
G1-13			35m DA014 35m DA015 35m DA020
G1-14			35m DA016 DA021
G1-15			

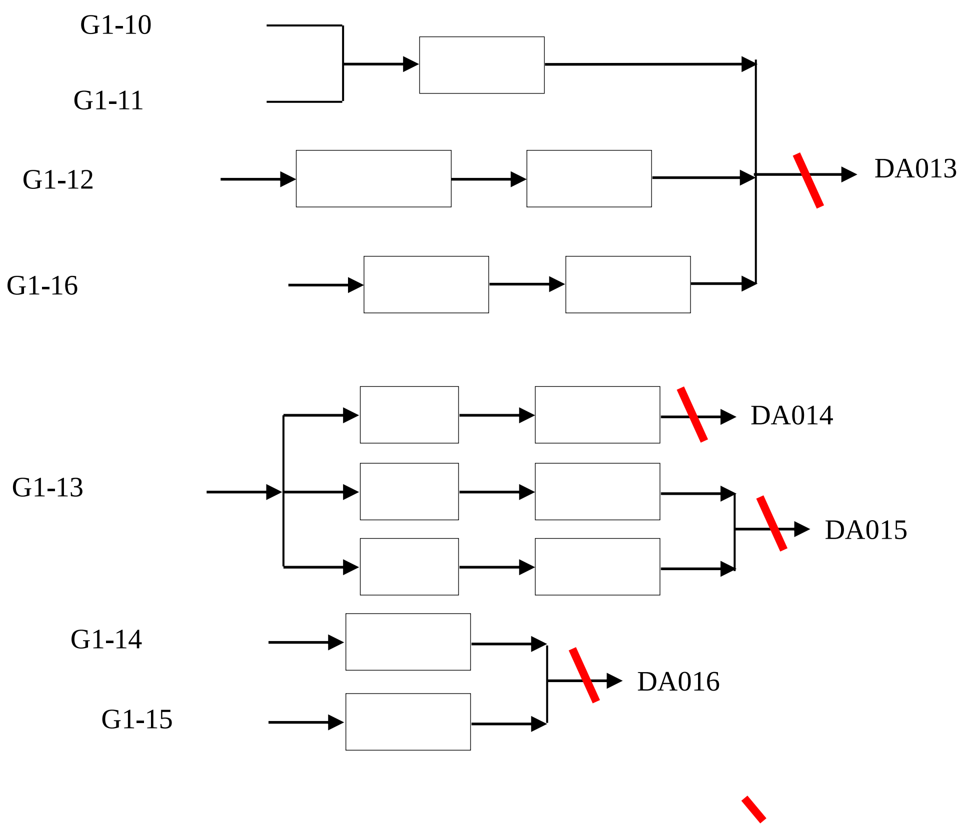
2.2-11~2.2-14


G1-1
G1-2
G1-3
G1-4
G1-6
G1-5
A
DA012
B
DA022
G1-7
G1-8
DA026
G1-9
DA028

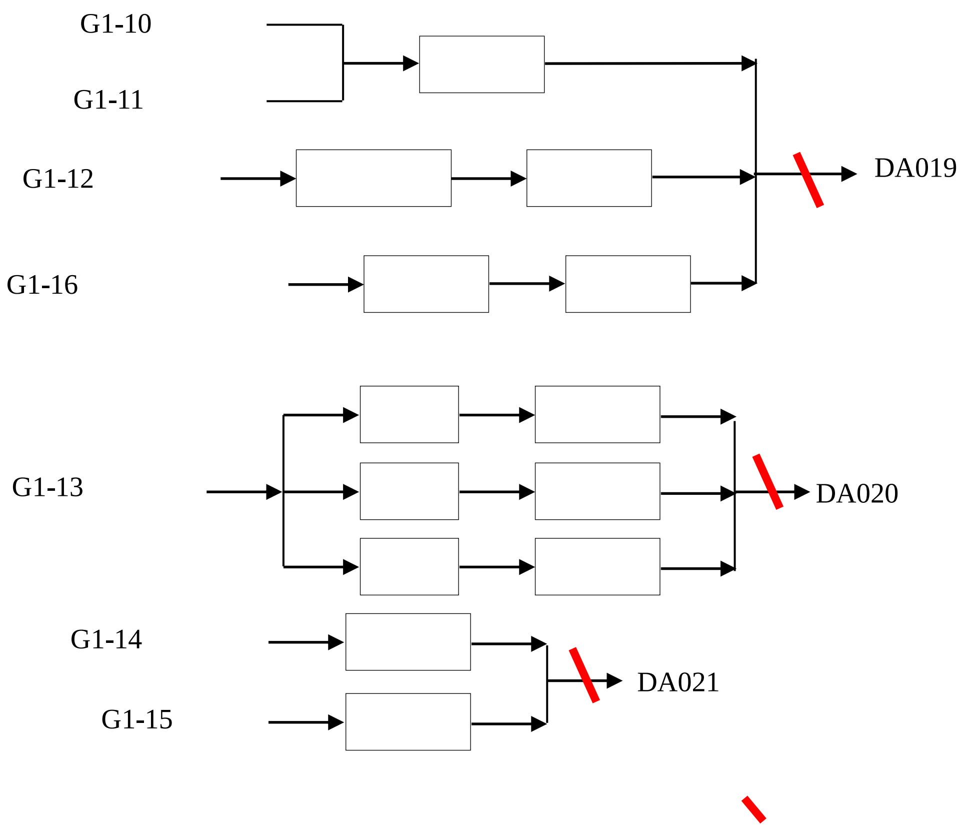
2.2-11


G1-1
G1-2
G1-3
G1-4
G1-6
G1-5
DA017
G1-7
G1-8
DA023
G1-9
DA027

2.2-12


G1-10
G1-11
G1-12
G1-16
DA013
G1-13
DA014
DA015
G1-14
G1-15
DA016

2.2-13


G1-10
G1-11
G1-12
G1-16
DA019
G1-13
DA020
G1-14
G1-15
DA021

2.2-14

2022 C220189 2022 1 19

2021 C210848-20

2021 12 11

2022 C220189-02 2022 3 10 -12

2022 C220189-03 2022 4 3

2022 C220189-04

2022 4 24

2.2-6

2.2-6

				m3/h	mg/m3	kg/h	kg/h	m m	mg/m3	kg/h	
DA012		2022.1.19	1	2022	1.5	0.00303	0.00364	40/0.5	10	39	
			2	2207	1.7	0.00375					
			3	1976	2.1	0.00415					
	VOCs		1	2022	4.52	0.00914	0.00855		60	3.0	
			2	2022	4.10	0.00829					
			3	2022	4.06	0.00821					
DA022		2022.1.19	1	2509	9.4	0.0236	0.0276	30/0.5	10	23	
			2	3564	7.8	0.0278					
			3	3512	8.9	0.0313					
	VOCs		1	2509	4.13	0.0104	0.0109		60	3.0	
			2	2509	4.28	0.0107					
			3	2509	4.58	0.0115					
DA017		2022.1.19	1	683	7.6	0.00519	0.00607	35/0.3	10	31	
			2	936	8.1	0.00758					
			3	747	7.3	0.00545					
	VOCs		1	683	3.92	0.00268	0.00258		60	3.0	
			2	683	3.99	0.00273					
			3	683	3.40	0.00232					
DA026	VOCs	2021.12.11	1	14420	3.03	0.0437	0.0624	35/1.2	60	3.0	
			2	14747	2.81	0.0414					
			3	21920	4.66	0.102					
DA023	VOCs	2021.12.11	1	30861	5.54	0.171	0.253	30/0.8	60	3.0	

			2	30896	8.87	0.274					
			3	31944	9.80	0.313					
	VOCs		1	7645	7.28	0.0557					
			2	7645	6.92	0.0529	0.0519		60	3.0	
DA028			3	7645	6.16	0.0471					
		2022.3.10						35/0.6			
			1	7781	3.7	0.0288					
							0.0276				

			3	1031	4.1	0.00423					
			1	1404		—					
			2	1433		—			2	0.15	
			3	1445		—					
			1	1404	0.190	0.0002678					
			2	1433	0.225	0.000365	0.0003164		5	0.3	
			3	1445		—					

2022.4.16

			1	1997	0.7	0.00140	0.00147		5	—	
			2	1997	0.9	0.00180					
			3	1997	0.6	0.00120					
		2022.3.27	1	1159	1.6	0.00185	0.00238		15	—	
			2	1119	2.8	0.00313					
			3	1023	2.1	0.00215					
		2022.4.14	1	1862			0.00000923		2	0.15	
			2	1857							
			3	1858	0.0497	0.0000923					
			1	1862	1.19	0.00222	0.00236		5	0.3	
			2	1857	1.29	0.0024					
			3	1858	1.32	0.00245					
			1	1862	0.252	0.000469	0.000469		8	0.3	
			2	1857	0.251	0.000466					
			3	1858	0.254	0.000472					
			1	1862	0.067	0.000125	0.000121				
			2	1857	0.0662	0.000123					
			3	1858	0.0624	0.000116					
			1	1862	0.125	0.000233	0.000239				
			2	1857	0.128	0.000238					
			3	1858	0.133	0.000247					
			1	1862	0.0601	0.000112	0.000109				
			2	1857	0.0572	0.000106					
			3	1858	0.0586						

			2	1268	2.3	0.00292					
			3	1246	2.7	0.00336					
			1	1268	2.89	0.00366					

			3	1274							
A015	VOCs	2022.1.20	1	12375	11.9	0.147	0.164	30/0.8	60	3.0	
			2	12375	13.7	0.170					
			3	12226	14.3	0.175					
			1	12375	0.8	0.00990	0.00905		5	—	
			2	12375	0.8	0.00990					
			3	12226	0.6	0.00734					
			1	12375	2.9	0.0124	0.00631		10	23	
			2	12226	2.4	0.00359					
			3	10883	2.7	0.00293					
			1	12375	2.62	0.0324	0.0365		—	20	
			2	12375	3.08	0.0381					
			3	12226	3.19	0.0390					
		2022.3.27	1	4860	5.6	0.0272	0.0231		15	—	
			2	5589	3.5	0.0196					
			3	5241	4.3	0.0225					
		2022.4.15	1	8450					2	0.15	
			2	10316							
			3	8756							
			1	8450			0.0006165		5	0.3	
			2	10316	0.0592	0.000611					
			3	8756	0.0710	0.000622					
			1	8450					8	0.3	
			2	10316							
			3	8756							
			1	8450							
			2	10316							
			3	8756							

			1	8450							
			2	10316							
			3	8756							
			1	8450							
			2	10316							
			3	8756							
	VOCs		1	2884	5.71	0.0165					
			2	2884	6.12	0.0177	0.0175		60	3.0	
			3	2884	6.36	0.0183					
			1	2884	1.4	0.00404					
			2	2908	1.6	0.00465	0.00512		10	23	
			3	3514	1.9	0.00668					
		2022.1.20	1	2884	2.40	0.00692					
			2	2884	2.97	0.00857	0.00724		—	20	
			3	2884	2.16	0.00623					

DA020

30/0.8

2 3533

			3	6425							
			1	6423							
			2	6328							
			3	6425							
DA021	VOCs	2022.3.07	1	10657	3.02	0.0322	0.0320	30/0.8	60	3.0	
			2	10496	3.03	0.0318					
			3	10343	3.08	0.0319					
		2022.4.15	1	6083					2	0.15	
			2	6742							
			3	6963							
			1	6083					5	0.3	
			2	6742	0.0575	0.000388	0.000388				
			3	6963							
			1	6083					8	0.3	
			2	6742							
			3	6963							
			1	6083							
			2	6742							
			3	6963							
			1	6083							
			2	6742							
			3	6963							
			1	6083							
			2	6742							
			3	6963							

2.2-6

GB16297-1996 2

DB37/2376-2019

1 GB14554-93

2 VOCs

6

DB37/801.6-2018 1

6 DB37/801.6-2018 2

GB31572-2015 5

6 DB37/801.6-2018 2

132917m^3/h 111650.28 m^3/a

1.883t/a VOCs 7.661t/a

1.955t/a 0.213t/a 0.497t/a 0.078kg/a

34.85kg/a 4.96kg/a

1 15m DA031

2021 C210848-20

2021 12 13

2.2-7

2.2-7

							kg/h	m			
				m^3/h	mg/m^3	kg/h			mg/m^3	kg/h	
DA031		2021.12.13	1	8822	5.1	0.045	0.0402	15/0.35	10	3.5	
			2	8640	5.6	0.0484					
			3	6469	4.2	0.0272					

2.2-7

GB16297-1996 2

DB37/2376-2019

1

7977m^3/h 5743.44 m^3/a

0.29t/a

/ G4-1 G4-2

G4-3 G4-4 2.2-8

2.2-8

G4-2		UV 1 15m DA007
G4-1 G4-3	/	VOCs / + UV 1 26m DA005
G4-4		1 15m DA008

2020 12 22

2.2-9

2.2-9

				m^3/h	mg/m^3	kg/h	kg/h	m	mg/m^3	kg/h	
DA007	VOCs	2020.12.22	1	6467.255	8.13	0.0526	0.0490	15	60	3.0	
			2	6467.255	7.50	0.0485					
			3	6467.255	7.12	0.0460					
DA005	VOCs	2020.12.22	1	5125.481	1.79	0.00917	0.00679	26	50	2.0	
			2	5125.734	2.64	0.00135					
			3	5056.011	1.95	0.00986					
			1	5125.481		——	——		0.5	0.2	
			2	5125.734		——					
			3	5056.011		——					

			1	5125.481	0.023	0.000118	0.000111		5.0	0.6	
			2	5125.734	0.020	0.000103					
			3	5056.011		——					
			1	5125.481		——	—		15	0.8	
			2	5125.734		——					
			3	5056.011		——					
			1	5125.481	4.6	0.0236	0.0254		10		
			2	5125.734	5.3	0.0272					
			3	5056.011	5.0	0.0253					
DA008		2020.12.22	1	4264.790	4.0	0.0171	0.0169	15	10	3.5	
			2	3814.772	4.3	0.0164					
			3	4540.407	3.8	0.0173					

DA007 VOCs

6 DB37/801.6-2018

1

GB16297-1996 2

DB37/2376-2019 1

DA005 VOCs

5 DB37/2801.5-2018 2

6

DB37/801.6-2018 1

15776m^3/h 3783.84 m^3/a VOCs

0.134t/a 0.27kg/a

0.102t/a

G5-3 G5-4

G5-5 2.2-10

2.2-10

G5-3		UV 1 15m DA007
G5-4		
G5-5		

2.2-9 DA007

VOCs 4

DB37/2801.4-2017 2

2.2-11

2.2-11

G6-1			1 44m DA025
G6-3			
G6-4			
G6-6			
G6-5			1 30m DA024
G6-2			
G6-7			
G6-8			
G6-9			
G6-8			20m DA018
G6-10			25m DA029

2022 C220189-02 2022

3 18

2.2-12

2.2-12

						kg/h	m m			
			m3/h	mg/m3	kg/h			mg/m3	kg/h	
DA018		1	20265	24.4	0.494	0.449	30/1.2	——	——	——
		2	19567	22.6	0.442					
		3	19374	21.2	0.411					
	VOCs	1	20265	16.5	0.334	0.278		——	——	——
		2	19567	14.0	0.274					
		3	19374	11.7	0.227					
DA018		1	39277	3.1	0.122	0.108		10	23	
		2	41294	2.6	0.107					
		3	40116	2.4	0.0963					
	VOCs	1	41294	11.4	0.185	0.207		60	3.0	
		2	41294	11.4	0.173					
		3	41294	11.4	0.264					
DA024		1	7673	21.5	0.165	0.167	30/0.6	——	——	——
		2	8093	22.2	0.180					
		3	7631	20.5	0.156					
	VOCs	1	8093	3.36	0.0272	0.0264		——	——	——
		2	8093	3.10	0.0251					
		3	8093	3.32	0.0269					
DA024		1	6636	2.4	0.0159	0.0191		10	23	

		2	6562	3.0	0.0197					
		3	6616	3.3	0.0218					
	VOCs	1	6562	3.05	0.0200					
		2	6562	3.50	0.0230	0.0216		60	3.0	
		3	6562	3.36	0.0220					
		1	3130	21.4	0.0670					
		2	3054	22.1	0.0675	0.0652		——	——	——
DA025		3	2968	20.6	0.0611					
	VOCs	1	3054	3.51	0.0107					
		2	3054	3.14	0.00959	0.00983		——	——	——
		3	3054	3.01	0.00919					
		1	3352	2.3	0.00771		30/0.5			
		2	3664	3.2	0.0117	0.01		10	23	
DA025		3	3329	3.2	0.0107					
	VOCs	1	3664	2.91	0.0106					
		2	3664	2.73	0.0100	0.0105		60	3.0	
		3	3664	2.94	0.0108					
		1	11495	23.9	0.275					
		2	12271	20.2	0.248	0.256		——	——	——
DA029		3	11321	21.6	0.245					
	VOCs	1	11495	14.1	0.162		25/0.5			
		2	12271	15.0	0.184	0.167		——	——	——
		3	11321	13.6	0.154					
DA029		1	9601	3.5	0.0336	0.0292		10	14.45	

		2	10925	2.6	0.0248					
		3	10108	2.9	0.0293					
	VOCs	1	10925	4.10	0.0448	0.0479		60	3.0	
		2	10925	5.09	0.0556					
		3	10925	3.95	0.0432					

GB16297-1996

2

DB37/2376-2019 1

VOCs

6 DB37/801.6-2018 1

38112m^3/h 27440.64 m^3/a VOCs

2.411t/a 1.397t/a

2.2-13

2.2-13

	t/a	VOCs t/a	t/a	t/a	t/a	kg/a	kg/a	kg/a
45000t/a 6 /	1.883	7.661	1.955	0.124	0.306	0.078	34.85	4.96
	0.29	—	—	—	—	—	—	—
	0.102	0.134	—	—	—	—	0.27	—
	1.397	6.453	—	—	—	—	—	—
	3.672	14.248	1.955	0.213	0.497	0.078	35.12	4.96

2.2.7.1.2

2.2-14

2.2-14

100m

100m

[2018]96

100m

[2018]207

100m

[2019]7 100m

2.2.7.2

2.2.7.2.1

2.2-17

2.2-17

1	45000t/a 6 /		
2			
3			
4			
5			

2.2.7.2.2

1000m^3/d “

\+ + + ” 2.2-16

2022 2 -3

2.2-18

2.2-18 2022 2

	m^3/d	COD_{Cr} mg/L	mg/L	mg/L
2022-02-08	2054	26.175.82 82		

2022-02-14	2026	24.1	6.88	0.653
2022-02-15	1854	28.6	5.69	0.641
2022-02-16	1728	20.1	5.96	0.464
2022-02-17	2183	30.8	11.6	0.931
2022-02-18	1820	28.2	11.7	1.02
2022-02-19	1520	20.1	8.46	0.794
2022-02-20	1424	19.4	6.95	0.655
2022-02-21	1878	22.7	5.38	0.585
2022-02-22	1965	15.8	6.68	0.721
2022-02-23	1706	25.4	6.69	0.596
2022-02-24	2149	29.5	6.68	0.613
2022-02-25	2172	43.2	7.69	0.786
2022-02-26	1907	46.6	7.75	0.815
2022-02-27	1999	46.3	8.25	0.876
2022-02-28	2021	28.1	4.17	0.606
2022-03-01	1340	28.1	6.94	0.833
2022-03-02	1967	31.1	5.53	0.665
2022-03-03	2399	35.3	5.06	0.598
2022-03-04	2284	30.3	5.3	0.596
2022-03-05	2280	35.2	5.84	0.54
2022-03-06	2273	24.8	4.51	0.4
2022-03-07	2255	31.7	5.34	0.607
2022-03-08	2131	25.1	7.89	0.6
	1956	29.6	8.06	0.77
	2551	50.3	15.4	1.53
	1340	15.8	4.17	0.4

GB/T31962-2015

A

29.6mg/L 15.4mg/L 1.53mg/L

21.890186 m^3/a

COD_{Cr} 19.4mg/L 0.253mg/L

0.202mg/L 8.61mg/L 4.247t/a 0.055t/a 0.044t/a 1.885t/a

2.2.7.3

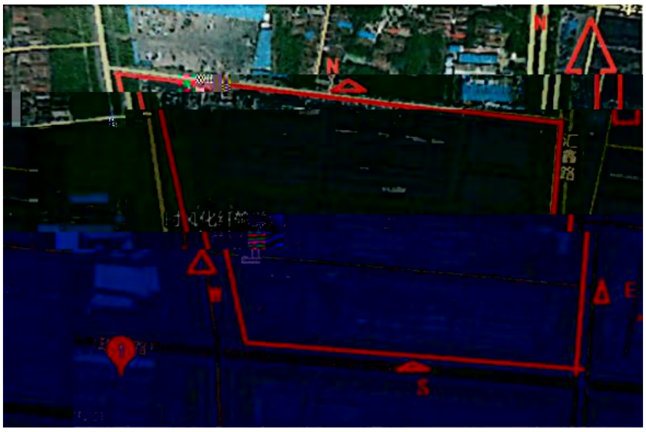
2021 C210848-08 2021

9 27

2.2-17 2.2-19

2.2-19

		2021 9 27	
		dB(A)	dB(A)
1#	1	57.3	48.6
2#	1	52.2	49.1
3#	1	55.4	48.8
4#	1	55.3	47.9
		65	55



2.2-17

52.2~57.3dB(A)

47.9~49.1dB(A)

GB12348-2008 3

2.2.7.4

2.2-20~2.2-25

45000t/a 6 /

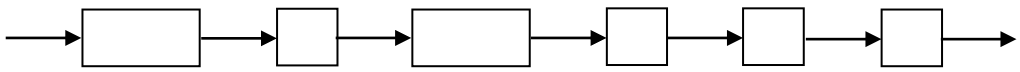
2.2-20

2.2-20

				t/a	
			--	0.35	
			--	8	
			--	40	
			--	20	
			--	128.53	
			--	185	
			--	265	
			HW08 900-249-08	0.12	
			--	70	
			--	82	
			--	12	
			--	150	
	--		HW49 900-041-49	12	
			HW08 900-249-08	26t/4a	
			HW13 900-015-13	0.4	

2000

10 20 “ ”



2.2-21

2.2-21

				t/a	
			--	10	
			HW08 900-249-08	1.0	
			HW08 900-249-08		
			HW09 900-006-09	1.2	
	--		HW09 900-006-09	2.0	
			--	0.03	
			--	60	

2.2-23

2.2-23

t/a

			HW49 900-041-49	2	
	UV		HW29 900-023-29	0.01	
			--	4.8	

2.2-25

2.2-25

		t/a		
		0.27		
		6		
		31		
		15		
		69.943		
		142		
		206		
		0.16		
		7		
		32		
FDY	--	2		
		5t/4a		
		10t/4a		
		0.45		

2.2-20~2.2-25

2.2.8

2.2-26

2.2-26

		m³/a	148618.2
		t/a	3.672
		VOCs t/a	14.248
		t/a	1.955
		t/a	0.213

		t/a	0.497
		kg/a	0.078
		kg/a	35.12
		kg/a	4.96
	m^3/a		218901.86
	COD_{Cr} t/a		4.247
	t/a		0.055
	t/a		0.044
	t/a		1.885
t/a			0

2.2.9

1.787t/a VOCs

t/a 14.248t/a

2018

VOCs

2018 6 20 21

- / - HJ

734-2014

45000t/a 6 /

C2821 2018 10

23 6 DB 37/

2801.6-2018 VOCs

HJ 38-2017

VOCs

HJ 38-2017

6 DB

37/ 2801.6-2018

VOCs

2.2-27

2.2-13

	VOCs t/a	t/a	t/a	kg/a	kg/a	kg/a	VOCs t/a
45000t/a 6 /	8.897	0.137	0.36	0.078	36.70	4.99	9.436
	0.15	—	—	—	—	—	0.15
	7.638	—	—	—	0.27	—	7.638
	16.685	0.137	0.36	0.078	36.97	4.99	17.224

VOCs 17.224t/a

2.3

2.3.1

2.3.2

2.3-1

2.3-1

	6	20000t	

2.3.3

2.3-2

2.3-2

		2 1

	—	
		1 2.0m^3
		1 2.0m^3
		1 15m P7-1 25m P7-2 35m P7-3 P7-4 P7-5 35m P7-6 P7-7 15m P7-8
		759m^3

2.3.4

2.2-1

2.3.5

2 45000t/a

6 /

2.2-3 3 4

2.3.6

2.3.6.1

2.3.6.1.1

G6-11

G6-12 G6-13 G6-14 G6-15

G6-16 G6-17

2.3-3 2.3-4

2.3-3

1	G6-11	1 15m P6-1
2	G6-12	
3	G6-13	25m P6-2
4	G6-14	35m P6-3 P6-4 P6-5
5	G6-15	35m P6-6
6	G6-16	35m P6-7
7	G6-17	15m P6-8

2.3-4

								m m
		mg/m3	kg/h	t/a	mg/m3	kg/h	t/a	
G6-11 G6-12 P6-1		2.03	0.0047	0.039	0.609	0.0014	0.0117	15/0.3
		0.203	0.00047	0.0039	0.061	0.00014	0.0012	
		0.001	2.34×10^{-6}	0.00002	0.0003	7.02×10^{-7}	0.000006	
		0.707	1.63×10^{-3}	0.0137	0.212	4.88×10^{-4}	0.0041	
		0.017	3.96×10^{-5}	0.0003	0.005	1.19×10^{-5}	0.0001	
G6-13 P6-2		3.03	1.635×10^{-2}	0.137	0.303	1.635×10^{-3}	0.0137	25/0.3
		72	0.39	3.276	7.2	0.039	0.3276	
	VOCs	22	0.12	1.008	2.2	0.012	0.1008	
		0.17	8.99×10^{-4}	0.008	0.017	8.99×10^{-5}	0.0008	
		1.03	5.58×10^{-3}	0.047	0.103	5.58×10^{-4}	0.0047	
		2.96	1.596×10^{-2}	0.134	0.296	1.596×10^{-3}	0.0134	
		0.79	4.27×10^{-3}	0.036	0.079	4.27×10^{-4}	0.0036	

GB16297-1996 2

GB14554-93 2

VOCs

6 DB37/801.6-2018

1

2.3.6.1.2

0.1003t/a

0.00003t/a 2.1883t/a VOCs0.5642t/a 0.0113t/a 0.0501t/a

0.1208t/a 0.0109t/a

GB14554-93 1

GB16297-1996 2 VOCs

6

DB37/801.6-2018 3

2.3.6.2

2.3-5

2.3-5

	t/a	mg/L			
		COD_{Cr}	BOD_5		
	5489.77	200	100	15	--
	4200	100	60	5	1000
	840	60	20	5	2000
	1260	500	350	5	--
	2016	350	250	30	--
	13805.77				

13805.77t/a COD_{Cr} 2.9t/a 0.17t/a

GB/T31962-2015 1A

GB18918-2002 A

[2017]5 COD_{Cr} NH_3-

13805.77t/a COD_{Cr}

0.55t/a 0.028t/a

2.3.6.3

2.3-6

2.3-6

		t/a		
		60		
		65		
		3		
		10		
FDY	--	8		
		0.15		

2.3.6.4

20

25dB(A)

(GB12348-2008) 3 4

2.3.7

2.3-7

2.3-7

		Nm^3/a	42000	
		t/a	2.3049	
		t/a	0.0111	
		t/a	0.117	
		t/a	0.0001	
		VOCs t/a	0.6086	
		t/a	0.0109	
		t/a	0.0498	
		t/a	0.1257	
		t/a	2.1883	

--

2.4

2.4.1

2 × 130t/h 5

2 × 130t/h 2 × 24MW

3 × 130t/h

5 × 130t/h

2.1-1

2001 2

130t/h +2 24MW

2 130t/h +1 50MW

2016 5

[2015]16

1# 2# 2016

11 2016 12

2017 2017 5

2.4.2

2.4-1

2.4-1

2 × 130t/h 5

2 × 130t/h 2 ×

24MW

312 t/a

3 ×

130t/h

5 × 130t/h

		1
		1

Ŋ Ŗ ¤ ϖ .

3311.6m^3/a

2

50m^3/d

2.4.5.2

2.4.6

5×130t/h 1 50MW

2 24MW 1

2.4.6.1

SO_2 NO_X SNCR

\+ + + + 1 150m

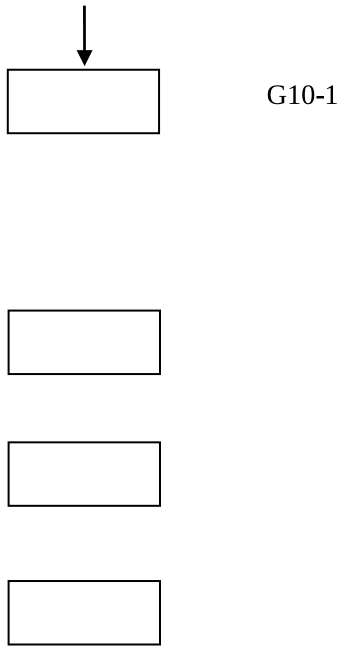
2.4-2

2.4.6.2

1

EPS

2.4.6.2



2.4-3

2.4.7

2.4.7.1

2.4.7.1.1

5 130t/h

SO_2 NO_X +SNCR +

\+ + + 1 150m

DA001

“ + +UV + ” 1 15m

SO_2 NO_X

2022 2-3 2.4-3

2.4-3 2022 2

	mg/m3		mg/m3		mg/m3		m3/h	
2022-02-01	8.26	17.6	17.3	37	0.631	1.35	188554	39.1
2022-02-02	7.57	14.4	18.7	35.6	0.692	1.31	206427	41.2
2022-02-03	4.31	8.15	17.3	32.6	0.671	1.27	212336	41.7
2022-02-04	4.47	8.51	16.9	32.1	0.67	1.28	205347	41
2022-02-05	6.94	13.3	18.5	35.1	0.697	1.33	209894	41.1
2022-02-06	7.88	14.8	18.9	35.7	0.811	1.53	281169	43.1
2022-02-07	8.06	13.9	21.9	37.7	0.871	1.5	279381	47.8
2022-02-08	9.47	15.4	22.3	36.3	0.952	1.54	291612	45
2022-02-09	9.38	15.4	21.1	34.5	0.859	1.41	279320	45.1
2022-02-10	7.04	11.7	21.2	35.1	0.762	1.26	247916	45.6
2022-02-11	5.76	11.1	17.6	34.4	0.65	1.31	250690	42.4
2022-02-12	6.75	12.2	18.9	34.6	0.757	1.38	254021	42.9
2022-02-13	6.39	11.5	18.9	34.3	0.739	1.34	252152	43.1
2022-02-14	5.58	10.3	18.8	35	0.688	1.28	262152	42.3
2022-02-15	7.12	12.8	18.4	33.3	0.812	1.47	286572	41.6
2022-02-16	8.39	14.6	19.2	33.5	0.817	1.42	302780	42
2022-02-17	9.53	16.6	20.7	36.2	0.816	1.42	310628	41.9
2022-02-18	10	16.9	21.3	36	0.825	1.4	291227	43.2
2022-02-19	10.2	17.2	21.7	36.8	0.827	1.4	311221	43.1
2022-02-20	10	17.1	20.9	35.8	0.823	1.41	309019	42.7
2022-02-21	11	17.7	22.4	36	0.834	1.34	302413	43.8
2022-02-22	11.4	18.1	21.8	34.6	0.837	1.33	308136	44.7
2022-02-23	11.1	17.4	21.9	34.3	0.849	1.34	335684	46.2

664 2019								

2021 101911 2021 10 19

2.4-4

2.4-4

				m3/h	mg/m3	mg/m3	kg/h
DA001		2021.10.13	1	212472	20.7	34.98	0.0044
			2	232366	23.2	39.44	0.00539
			3	240790	23.2	39.44	0.00559
			1	212472	1.23	2.08	0.26
			2	232366	1.23	2.09	0.29
			3	240790	1.21	2.06	0.29
			1	1			

2.4-3 2.4-4

ضد U

4.5

				m^3/h	mg/m^3	kg/h
			1	7895		5.92×10^{-6}
			2	9322		6.99×10^{-6}
			3	9684		

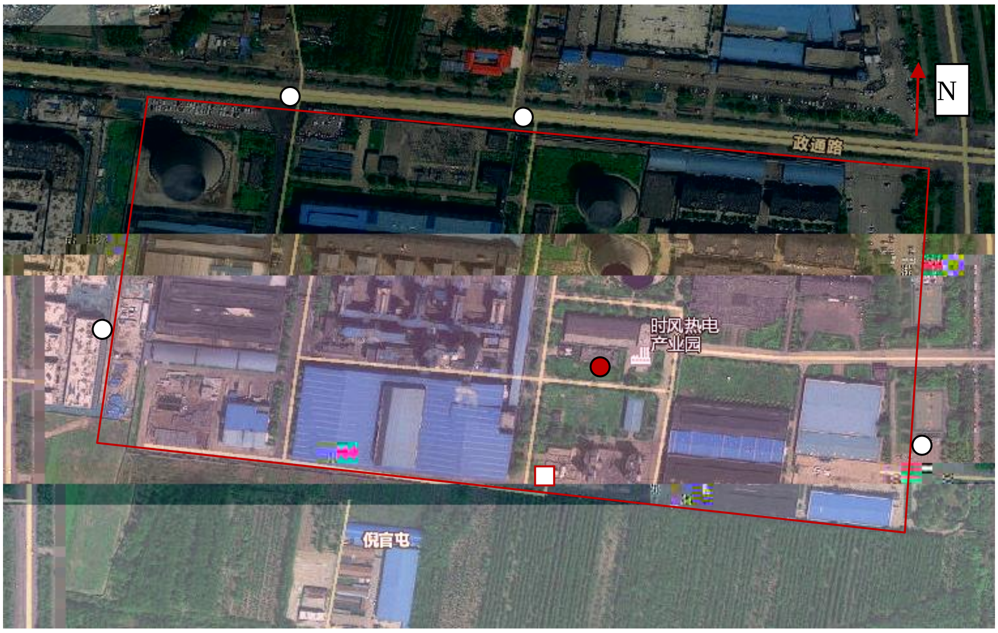
DA002

2019.
11.30

0.139t/a 0.0027kg/a

2.4-5

2.4-5



2.4-4　1

2.4-4　2

2.4-6　1

	2021.12.15			
		mg/m³	mg/m³	mg/m³
		0.04	0.215	——
		0.06	0.199	——
		0.05	0.234	——
		0.07	0.316	——
		0.07	0.283	——
		0.06	0.269	——
		0.08	0.299	——
		0.10	0.286	——
		0.08	**0.318**	——
		0.07	0.233	——
		0.08	0.267	——
		0.07	0.250	——
		——	——	1.63
		——	——	1.75
		——	——	1.78
		0.10	0.059	1.78
		1.5	1.0	厂界 2.0（厂区内 6）

2.4-6　2

	2019.11.30				
		mg/m³	mg/m³	mg/m³	mg/m³
		0.53			
		0.54			
		0.54			
		0.49			
		0.86			

		1.49			
		1.33			
		1.31			
		1.37			
		1.11			
	2019.11.30				
		mg/m^3	mg/m^3	mg/m^3	mg/m^3
		0.54			
		0.53			
		0.47			
		0.46			
		0.79			
		0.79			
		0.92			
		0.5			
		0.94			
		0.93			
		0.96			
		0.99			
		1.64			
		1.55			
		1.68			
		1.68			
		1.68			
		2.0	0.1	0.2	0.2

2.4-7 1

		( )		m/s)	(kPa)	%	/
2021.12.15	10 50	3.8	SE	1.6	102.03	60.2	3/5
	13 00	8.6	SE	1.6	101.86	55.6	2/5
	14 00	8.9	SE	1.6	101.83	55.2	2/5
	15 00	9.5	SE	1.7	101.67	53.2	2/4
	22 00	-1.5	S	2.0	102.26	62.8	2/4

2.4-7 2

4.5

		( )		m/s)	(kPa)	/
2019.11.30		8.6	E	0.9	102.38	2/5
		8.6	E	0.9	102.38	2/5
		9.3	E	0.7	102.38	2/5
		9.3	E	0.7	102.38	1/5
2019.12.01		6.7	E	0.9	100.93	2/5
		6.7	E	0.9	100.93	2/5
		7.3	E	1.0	102.97	1/5
		7.3	E	1.0	102.97	1/5

2.4-6

GB16297-1996

2

GB14554-93 1 VOCs

6

DB37/801.6-2018 3 VOCs

GB

37822—2019 A.1 VOCs

2.4.7.2

3311.6m^3/a

2022

C220190 2022 1 21

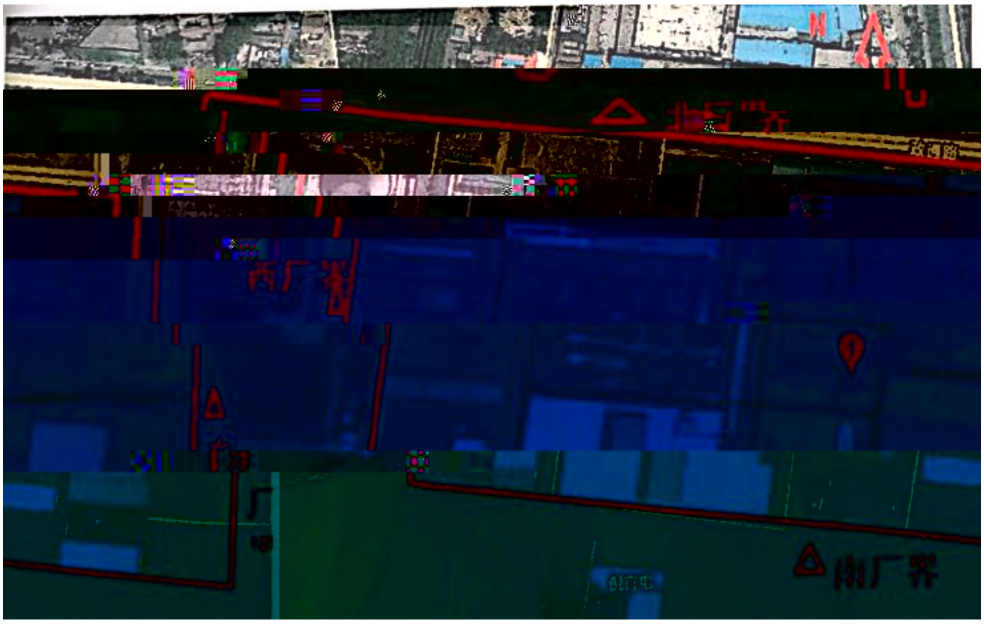
2.4-8

2.4-8 2022 1

4.5

	m^3/d	pH	COD_{Cr} mg/L	mg/L	mg/L	mg/L
2022.1.21	60	6.8	8		0.02	0.11
		7.0	11		0.02	0.14
		6.8	10		0.02	0.18
GB/T31962-2015 A	——	6.5-9.5	500	45	8	100
	——	6.5-9.5	300	20	8	——
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
2022.1.21	22		1.41	928	0.22	
	20		1.30	906	0.22	
	24		1.46	916	0.19	
GB/T31962-2015 A	400	1	20	1500	15	1
	——	——				

		dB(A)	dB(A)
1#	1	55.1	49.0
2#	1	57.4	46.5
3#	1	51.7	49.3
4#	1	57.2	49.3
		65	55



2.4-5

51.7~57.4dB(A)

46.5~49.3dB(A)

GB12348-2008 3

2.4.7.4

2.4-10

2.4-10

				t/a	

HW29 900-023-29	0.03

3

3.1

10 15 37

3

2 2~3 1 4~5

5000 4~5

3 2018 8

4.5%-5%

100 8 20

30 2 880

3.2-1

3.2-2 6

				/(dtex/											
				2100/2		1870/2		1400/3		1400/2			930/2		
				V_1	V_2	V_1	V_2	V_1	V_2	V_1	V_2	V_3	V_1	V_2	V_3
1			/10cm	88	74	88	74	88	74	100	74	52	126	94	60
2				92	78	92	78	92	78	105	78	55	130	98	64
3				8	10	8	10	8	10	8	10	16	10	12	14
4			tex	28~30											
5			m	L ±2%											
6			cm	145±3											
7				2~10 28tex-30tex											
			[redacted]	42~45											
			cm	10											

3.2-3 1 ( )

		1 6 22858m^2	
		1 1 6950m^2	
		1 6 5592.66m^2	
		1	
		1t/h	
		1 666m^2	
	1	1 4032m^2 1	
	2	1 4032m^2 1	
	3	1 4368m^2	
	4	1 1152m^2	
		1 2000m^2	
		1 7.5m^2	
		1 800L	
		1 3.9m^3	
		1 3.9m^3	
		3304.7 kWh	
		4872t	
		1	

		30m P1-1 30m P1-2 RTO 43 P1-3	

3.2-3

		1 1 10000m^2	
		1 6 19008m^2	
		1	
		2t/h	
		1 4 1	
		1 20m^2	
		1 3.9m^3	
		1 3.9m^3	
		1379.2 kWh	
		1512t	

		RTO 43 P2-1 P2-2	

			13168
			45000
		/	132750
		/	114272.08
		/	15000.83
		/	3750.21
		/	11250.62
		[redacted]	

3.2-5 2

1	DNP	N,N'- -

2

3

SSW

3.2.7

3.2-7

3.2-7

1			1	
2			1	
3		N-170/98	1	
4			1	
5		STC	31	
6		LTP-R54E4E4 CL51	2	
7		ø4200*19300	1	
8		ASC-23F	1	
9			1	
10			1	
11			1	
12			2	
13			1	
14		ZAX9200iTC	20	
15		TZJB	20	
16		ASG700	6	

17		K3503F	36	
18			6	
19			8	
20		OP425	24	
		VP300L	24	
21			1	
22		ZAX9200iTC	20	
23		TZJB	20	
24		K3503F	36	
25			1	
26			1	

3.2.8

3.2.8.1

3.2.8.2

1

140-150

24-36h

18

90 左右

18

90 左右

2

2

1

20Mpa

G_1

G_2

2

2

270-290

G_3 G_4

S_1

3

19

G_5

20~25

S_2

30m P1-2

850mm

4

S_3

3

S_4

4

20~3

45 ~50

85 95

20~30

- 1.3~2.3

$$C_6H_6O_2+HCHO+H_2O=(C_6H_6O_2 \cdot HCHO)_x+H_2O$$

pH 25

G_6 G_7

G_8

25m P4

110-140

110-140 200

200

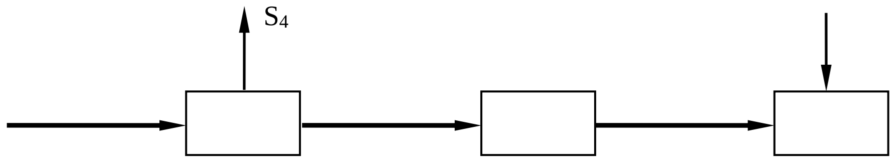
G14

G15 G16 G14 G15 G16

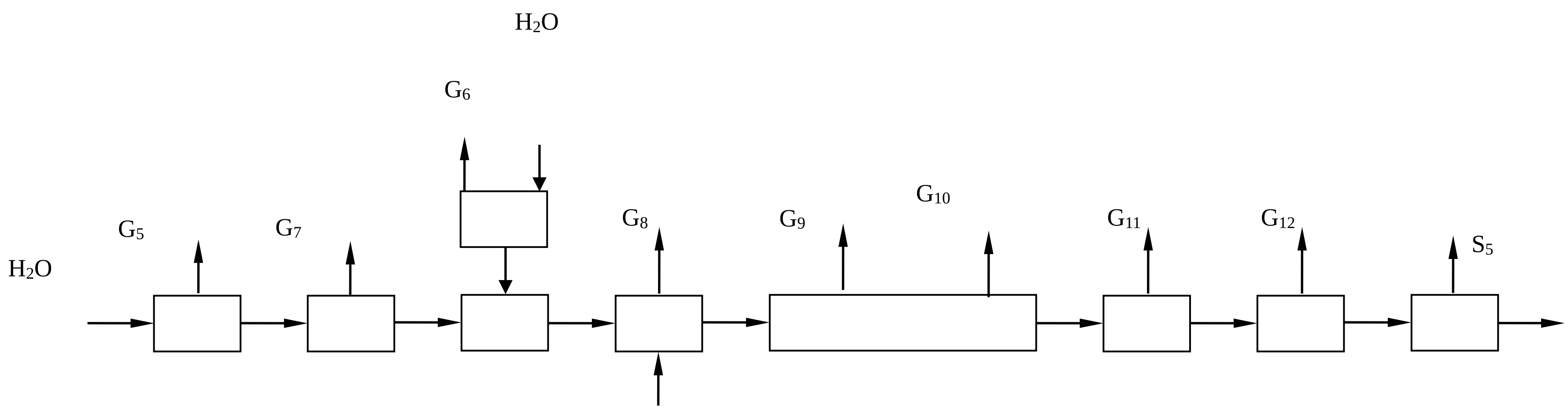
RTO 43m P1-3 P2-1 P2-2

S10 S12

3.2-3



3.2-3　2



3.2-3　3

3.2.8.3

3.3-9 3.3-10

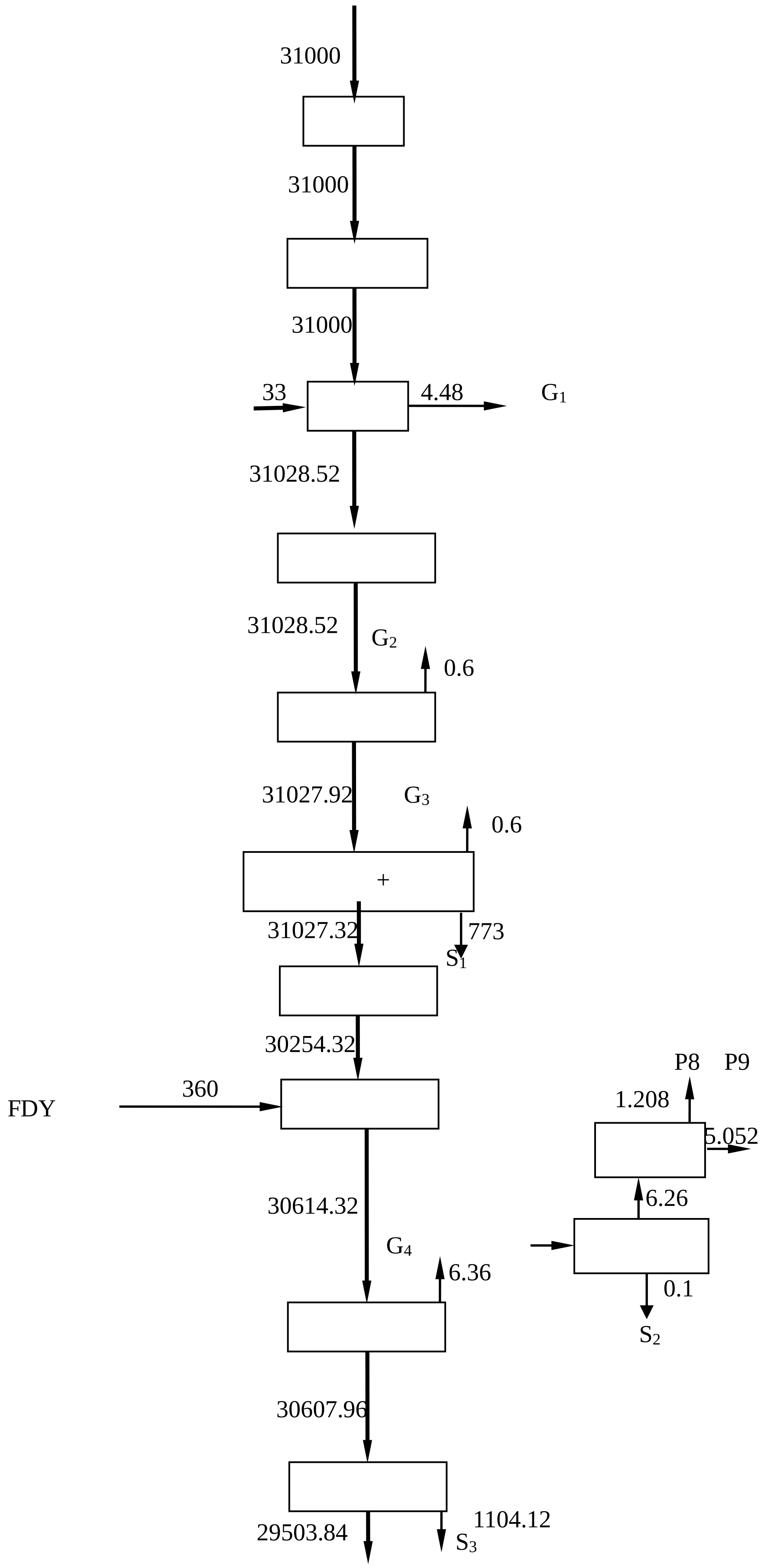
3.3-9

	G_1					30m 0.8m P1-1
	G_2				VOCs	
	G_3				VOCs	
	G_4				VOCs	30m 0.8m P1-2
	G_5					RTO 43 P1-3
	G_6				VOCs	
	G_7					
	G_8				VOCs	
	G_9				VOCs	
					VOCs	
	G_{10}					
	G_{11}				VOCs	
	G_{12}				VOCs	

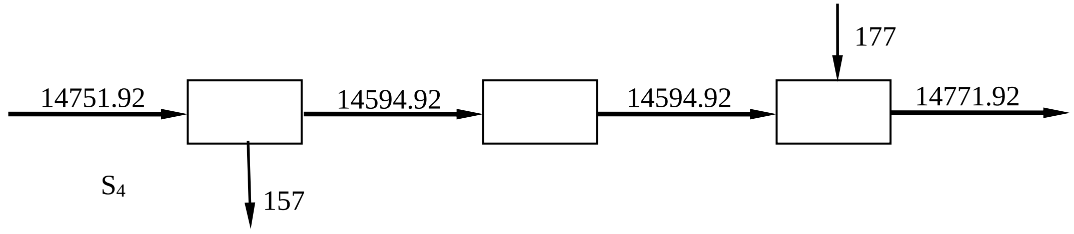
	G_6				VOCs	
	G_7					
	G_8				VOCs	
	G_9				VOCs VOCs	RTO 43 P2-1 P2-2

Ä

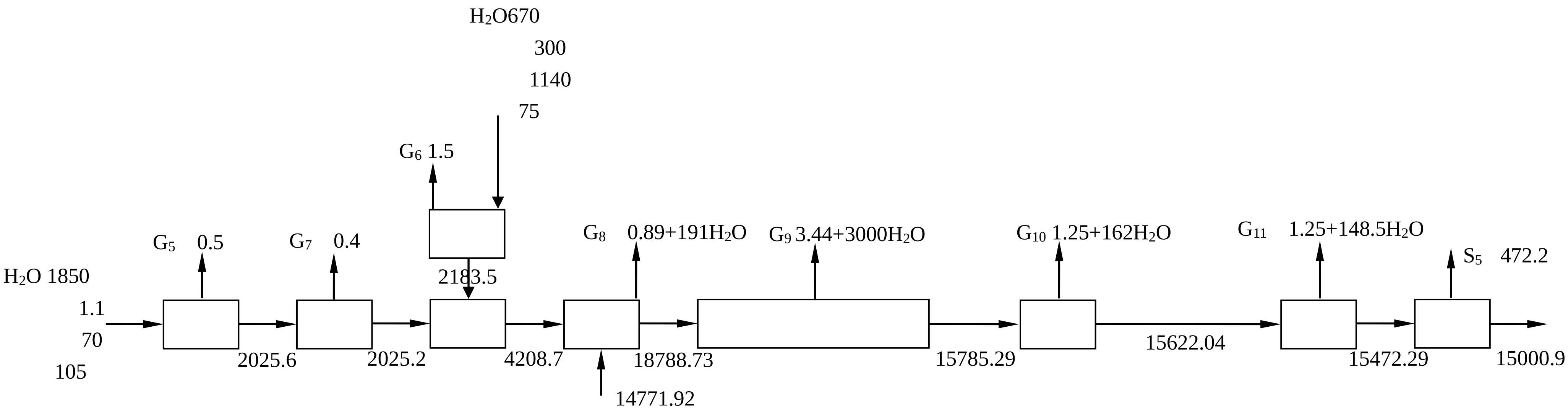
4.5


31000
31000
31000
33
4.48
G1
31028.52
31028.52
G2
0.6
31027.92
G3
0.6
+
31027.32
773
S1
30254.32
P8 P9
1.208
5.052
FDY
360
30614.32
6.26
G4
6.36
0.1
S2
30607.96
1104.12
29503.84
S3

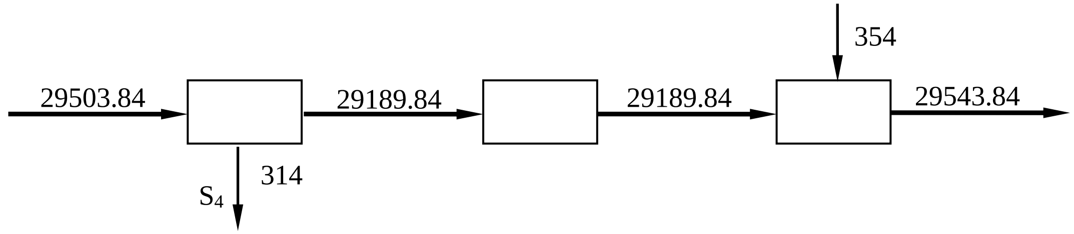
3.3-2 1


177
14751.92
14594.92
14594.92
14771.92
S_4
157

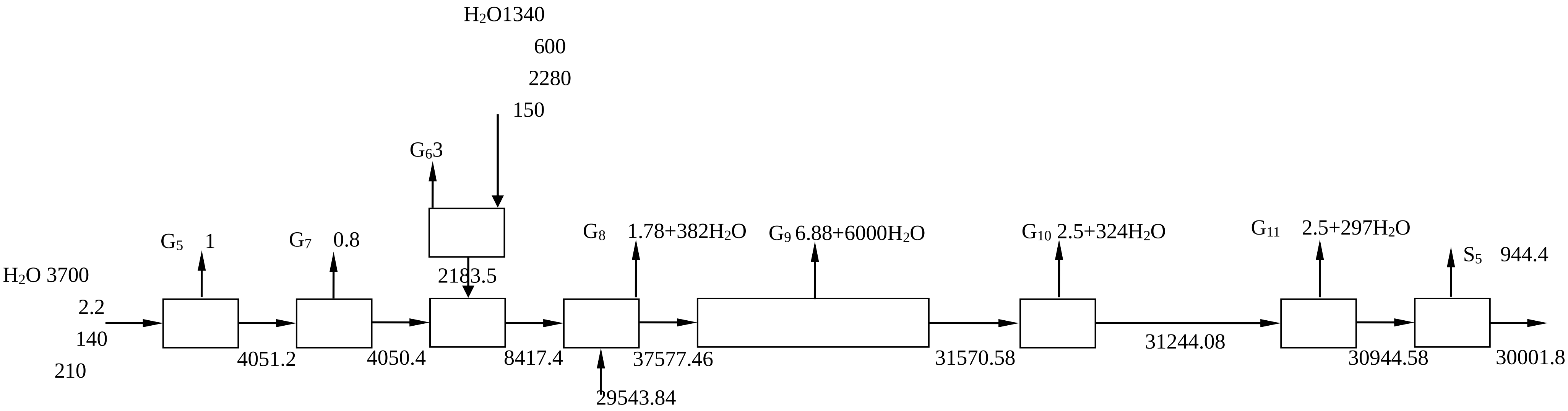
3.3-3　2


H_2O670
300
1140
75
G_6 1.5
G_5 0.5
G_7 0.4
G_8 0.89+191H_2O
G_9 3.44+3000H_2O
G_{10} 1.25+162H_2O
G_{11} 1.25+148.5H_2O
S_5 472.2
H_2O 1850
1.1
70
105
2183.5
2025.6
2025.2
4208.7
18788.73
14771.92
15785.29
15622.04
15472.29
15000.9

3.3-3　3


354
29503.84
29189.84
29189.84
29543.84
314
S_4

3.3-3 4


H_2O1340
600
2280
150
$G_6$3
G_5 1
G_7 0.8
G_8 1.78+382H_2O
G_9 6.88+6000H_2O
G_{10} 2.5+324H_2O
G_{11} 2.5+297H_2O
S_5 944.4
H_2O 3700
2.2
140
210
2183.5
4051.2
4050.4
8417.4
37577.46
31570.58
31244.08
30944.58
30001.8
29543.84

3.3-3 5

3.2.9

3.2.9.1

1

5m^3/d

1750m^3/a

4m^3/d 1400m^3/a

2

7.2m^3/d 2520m^3/a

9.6m^3/d 3360m^3/a

14.4m^3/d 5040m^3/a

19.2m^3/d 6720m^3/a

3

40m^{3}m0 g0 G[<3AE822AD07E7080D5

30 24

120L/ · 3.6m^3/d 1260m^3/a

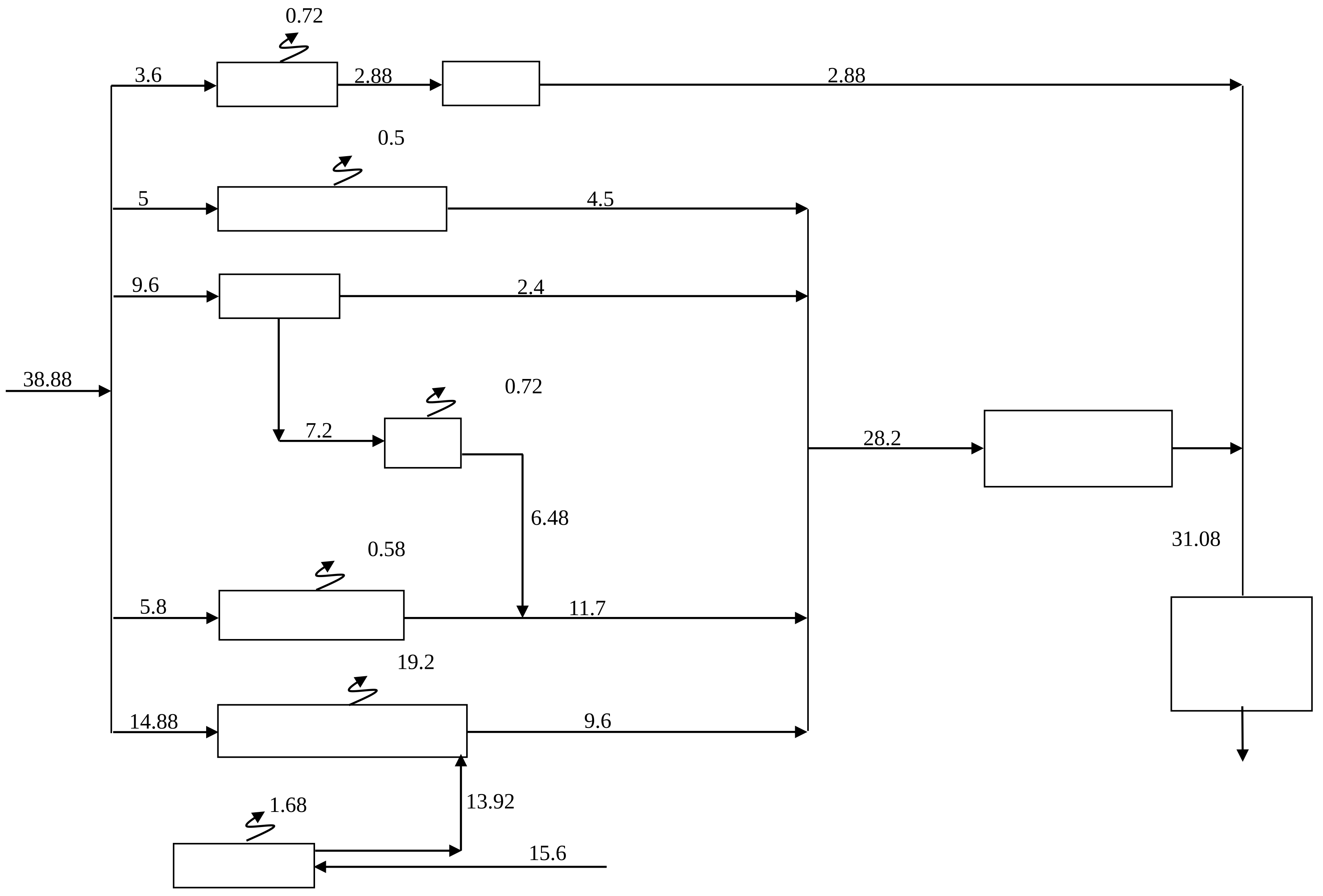
2.88m^3/d 1008m^3/a

6

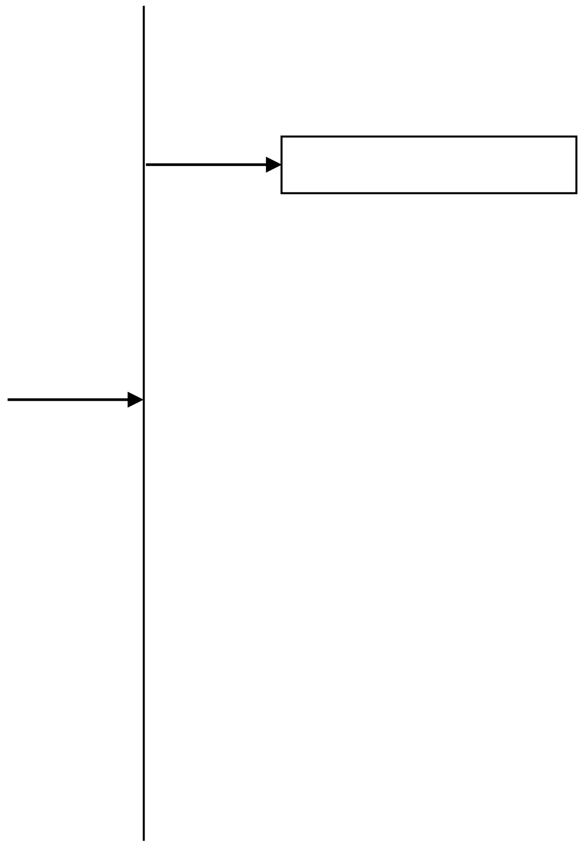
0.65t/h 5460t/a 0.07t/h 588t/a 0.58t/h 4872t/a

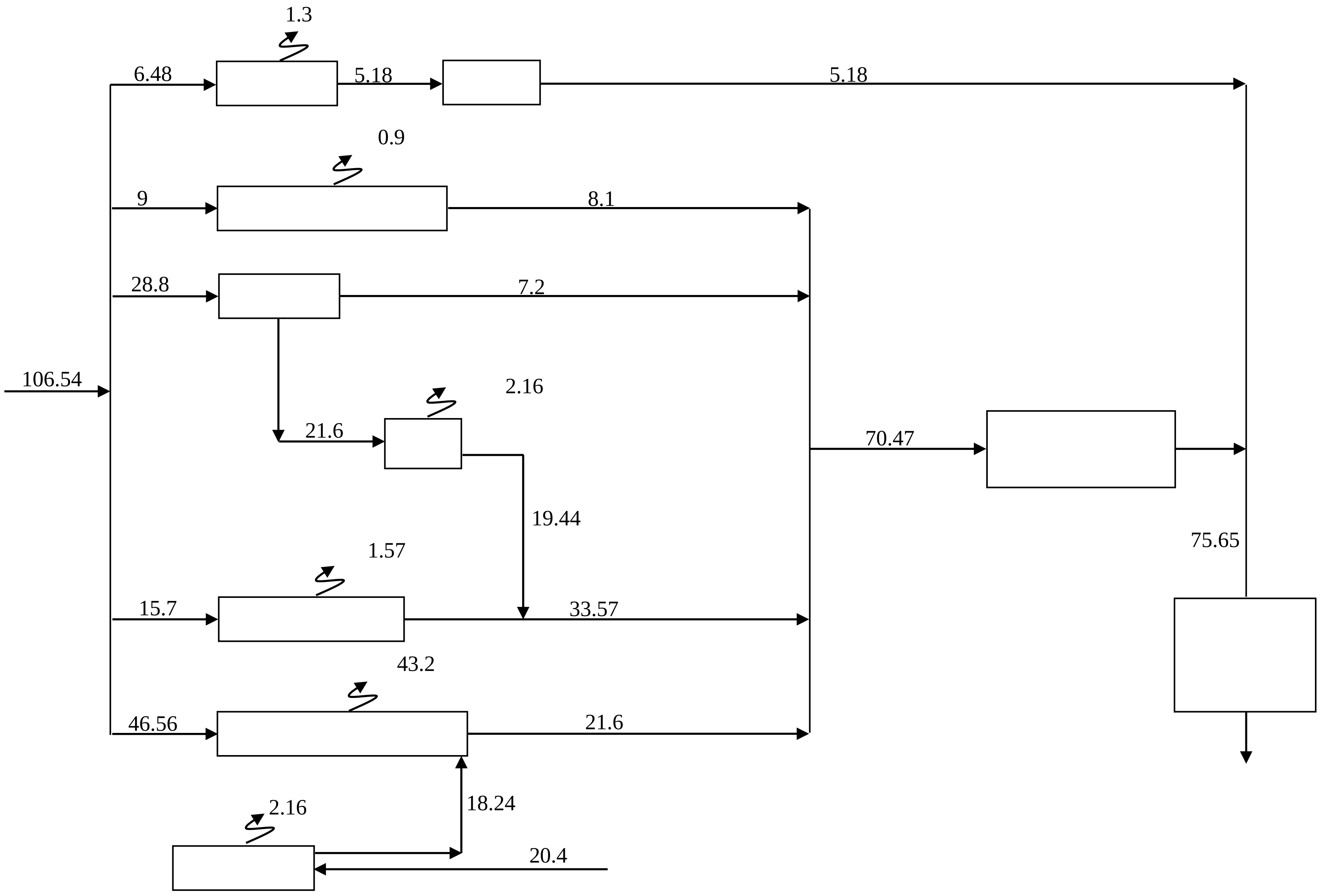
0.2t/h 1680t/a

0.02t/h 1680t/a 0.18t/h 1512t/a


0.72
3.6
2.88
2.88
0.5
5
4.5
9.6
2.4
38.88
0.72
7.2
28.2
6.48
31.08
0.58
5.8
11.7
19.2
14.88
9.6
1.68
13.92
15.6

3.2-6 m^3/d




1.3
6.48
5.18
5.18
0.9
9
8.1
28.8
7.2
106.54
2.16
21.6
70.47
19.44
75.65
1.57
15.7
33.57
43.2
46.56
21.6
2.16
18.24
20.4

3.2-8 m^3/d

3.2.9.3

3304.7 kWh

1379.2 kWh

3.2.9.4

0.65t/h 5460t/a 0.2t/h 1680t/a

		1		1.5	2.2	3.9	0.8	2.54
		1		1.5	2.2	3.9	0.8	2.84
		1		1.5	2.2	3.9	0.8	2.54

3.2.9.6

EDI EDI Electrodeionization

EDI

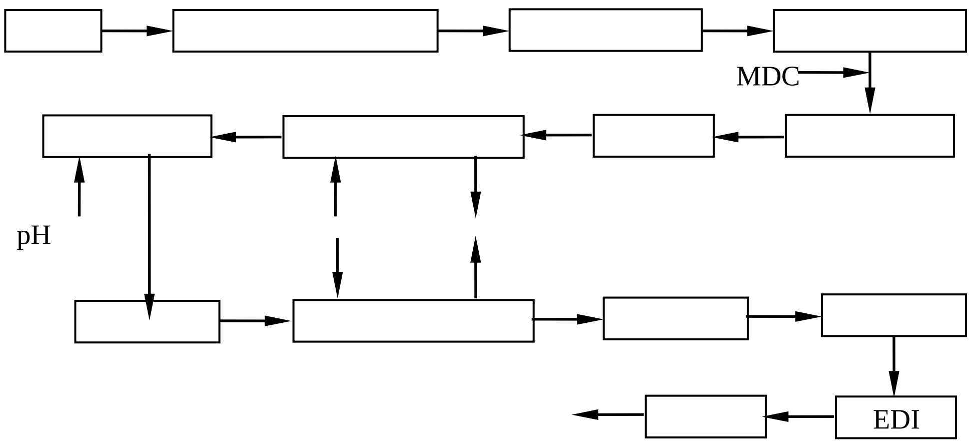
EDI EDI

EDI

EDI 3~5

EDI

3.2-10

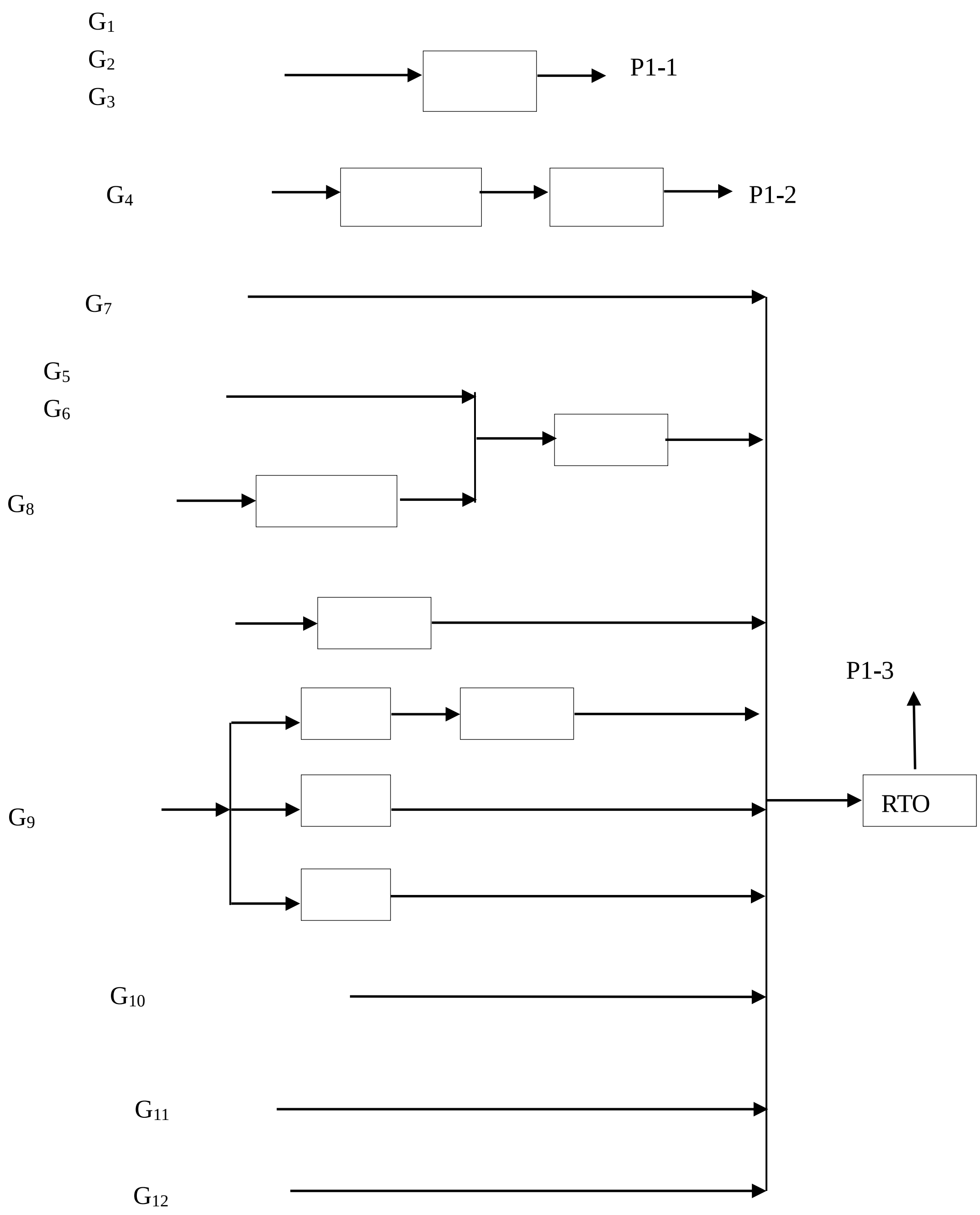


3.2-10

G_6 G_7 G_8 G_9

G_{10} G_{11}

45000t/a 6 /



3.3-1

G_8

3.3-2

3.3.1.1

3.3.1.1.1

1 G_1 G_2 G_3

G_1

90%

G_2 G_3

30m 0.8m P1-1

45000t/a 6 /

2021 12 11 DA026 DA023

HJ 1102-2020 D.1

6 - - - -

- 56.16g/ +

38.19g/ VOCs 1.68t/a

1.2t/a

0.4t/a

85-89%

85%

3.3-1

3.3-1

		(t/a)	kg/h	(mg/m³)	(m³/h)		(%)	(t/a)	(kg/h)	(mg/m³)
P1-1		4.48	0.533	18.7	30000		85	0.672	0.08	2.8
	VOCs	1.20	0.143	4.7			32	0.816	0.097	3.2

3.4-1

GB16297-1996 2

23kg/h

DB37/2376-2013 2 10mg/m^3

6 DB37/801.6-2018 1 60mg/m^3

3.0kg/h

2 G_4

19

G_4

30m 0.8m P1-2

45000t/a 6 / 2021 12

11 DA028 DA027 2022

3 18 DA029

HJ 1102-2020 D.1

6 56.16g/ +

38.19g/

3.3-2

3.3-2

		(t/a)	kg/h	(mg/m^3)	(m^3/h)		(%)	(t/a)	(kg/h)	(mg/m^3)
P1-2		5.88	0.7	23.3	30000	+	85	0.882	0.105	3.5
	VOCs	0.48	0.057	1.9			32	0.326	0.039	1.3

3.4-2

GB16297-1996 2 23kg/h

DB37/2376-2013 2

10mg/m^3

6

DB37/801.6-2018 1 60mg/m^3 3.0kg/h

3

3.3-3 3.3-1

3.3-3

G_5			RTO
G_6	VOCs		
G_8			

	VOCs		43m
G_9	VOCs		
G_7			
	VOCs		
G_{10}			
G_{11}	VOCs		
G_{12}	VOCs		

1

HJ991-2018 C

C.4

Qnet,ar 10467kJ/m^3 V_0=0.26 Qnet,ar/1000-0.25

V_s=0.272 Qnet,ar/1000-0.25+1.061 -1 V_0

V_0 m^3/m^3

Qnet,ar kJ/m^3 36440kJ/m^3

10467kJ/m^3

V_s m^3/m^3

1.7

V_0=0.260×36440/1000-0.25=9.22m^3/m^3

V_s=0.272×36440/1000-0.25+1.0161× 1.7-1 ×9.53=16.44m^3/m^3

10785.3 m^3/a

E_{SO2}=2R×S_t×(1- $_s$/100)×K×10^{-5}

E_{SO2} t

R m^3

S_t mg/m^3

$_s$ %

K

GB17820-2018 1

100mg/m^3

0 K 1 E_{SO2}=2 656.04 100 10^{-5}=1.312t/a

10mg/m^3 10mg/m^3

1.0785t/a

NOx 50mg/m^3

50mg/m^3

5.393t/a

3.3-4

3.3-4

Nm^3/a

RTO RTO

90% 80%

4.5

GB31572-2015 5

15mg/m^3 5mg/m^3 6

15mg/m^3 5mg/m^3 VOCs

6 DB37/801.6-2018 1 VOCs60mg/m^3 3.0kg/h

2mg/m^3 0.15kg/h 5mg/m^3 0.3kg/h 8mg/m^3 0.3kg/h

GB14554-93 2 41kg/h

3.3-7

3.3-7

														m	
		Nm^3/h	mg/m^3	kg/h	t/a			mg/m^3	kg/h	t/a	mg/m^3	kg/h			
G1 G2 G3		30000	18.7	0.533	4.48		85%	2.8	0.08	0.672	10	23	P1-1	30	0.8
	VOCs		4.7	0.143	1.20		32%	3.2	0.097	0.816	60	3.0			
G4		30000	23.3	0.7	5.88	+	85%	3.5	0.105	0.882	10	23	P1-2	30	0.8
	VOCs		1.9	0.057	0.48		32%	1.3	0.039	0.326	60	3.0			
G5 G6 G7 G8 G9 G10 G11		30000	7.7	0.232	1.9521		38%	4.8	0.144	1.2095	10	45.3	P1-3	43	0.8
	SO_2		5.2	0.156	1.312		0	5.2	0.156	1.312	50				
	NO_x		21.4	0.642	5.393		0	21.4	0.642	5.393	50				
	VOCs		14.9	0.446	3.75		90%	1.5	0.0446	0.375	60	3.0			
			15.5	0.464	3.898		90%	1.55	0.0464	0.3898		41			
			1.8	0.054	0.454		90%	0.18	0.0054	0.0454	5				
			0.9	0.027	0.227		90%	0.09	0.0027	0.0227	15				
			0.0002	$6.75 \quad 10^{-6}$	$5.67 \quad 10^{-5}$	RTO 43m	90%	0.00002	$6.75 \quad 10^{-7}$	$5.67 \quad 10^{-6}$	2	0.15			
			0.10	0.003	0.025		90%	0.01	0.0003	0.0025	5	0.3			
			0.013	0.0004	0.003		90%	0.0013	0.00004	0.0003	8	0.3			
		75600 m^3/a	2.7635t/a VOCs 1.517t/a SO_2 1.312t/a NOx 5.393t/a 0.3898t/a 0.0454t/a 0.0277t/a 0.00567kg/a 2.5kg/a 0.3kg/a												

3.3.1.1.2

1.5 1.5

3

2

1

3.3-8 3.3-2

3.3-8

3.3-9 P2-1 P2-2

		(t/a)	kg/h	(mg/m^3)	(m^3/h)		(%)	(t/a)	(kg/h)	(mg/m^3)
P2-1 P2-2		1.9521	0.232	7.7	30000	RTO 43m	38	1.2095	0.144	4.8
	SO_2	1.312	0.156	5.2			0	1.312	0.156	5.2
	NOx	5.393	0.642	21.4			0	5.393	0.642	21.4
	VOCs	3.75	0.446	14.9			90	0.375	0.0446	1.5
		3.898	0.464	15.5			90	0.3898	0.0464	1.55
		0.454	0.054	1.8			90	0.0454	0.0054	0.18
		0.227	0.027	0.9			90	0.0227	0.0027	0.09
		5.67 10^{-5}	6.75 10^{-6}	0.0002			90	5.67 10^{-6}	6.75 10^{-7}	0.00002
		0.025	0.003	0.10			90	0.0025	0.0003	0.01
		0.003	0.0004	0.013			90	0.0003	0.00004	0.0013

3.3-9 P2-1 P2-2

GB16297-1996 2 45.3kg/h

DB37/2376-2019 1 10mg/m^3 50mg/m^3

100mg/m^3 < >

[2019]39 50mg/m^3

GB31572-2015

5 15mg/m^3 5mg/m^3

6 15mg/m^3 5mg/m^3

VOCs

6 DB37/801.6-2018 1

VOCs60mg/m^3 3.0kg/h 2mg/m^3 0.15kg/h 5mg/m^3 0.3kg/h

-

3.3-10

															m
		Nm^3/h	mg/m^3	kg/h	t/a			mg/m^3	kg/h	t/a	mg/m^3	kg/h			
			7.7	0.232	1.9521		38%	4.8	0.144	1.2095	10	45.3			
G5	SO_2		5.2	0.156	1.312		0								
G6															
G7															
G8		30000											P2-1 P2-2	43	0.8
G9						RTO									
G10						43m									
G11															

[redacted]

					m		
mg/m³	kg/h	t/a	mg/m³	kg/h			
2.8	0.08	0.672	10	23	P1-1	30	0.8
3.2	0.097	0.816	60	3.0			
3.5	0.105	0.882	10	23	P1-2	30	0.8
--	0.039	0.326	60	3.0			

3.3-11 12600 Nm^3/a 4.3005t/a VOCs

2.267t/a SO_2 3.936t/a NOx 16.179t/a 1.1694t/a 0.1392t/a 0.0731t/a

0.01701kg/a 7.5kg/a 0.9kg/a

3.3.1.2

3.3.1.2.1

90% 10%

1.151t/a VOCs

0.187t/a

90% 10%

0.0971t/a VOCs

0.416t/a 0.433t/a 0.05t/a 0.025t/a 0.0063kg/a

0.003t/a 0.0003t/a

3.3.1.2.2

90% 10%

0.1942t/a VOCs

0.832t/a 0.866t/a 0.1t/a 0.05t/a 0.0126kg/a 0.006t/a

0.0006t/a

90%

90%

3.3.2

3.3.2.1

3.3-12 3.3-13

3.3-12

			mg/L					
	m^3/a	m^3/a	COD_{Cr}	BOD_5				
	4095	7654.5	200	100	15	25	700	5
	3360	4200	100	60	5	8	2100	
	840	1680	60	20	5	8	2800	
	1575	1260	500	350	5	8	700	
	1008	805	350	250	30	45	700	
	10878		216	132	11	18	1295	1.9
		15599.5	190	109	11	18	1303	2.5
	26477.5		201	118	11	18	1300	2.2

3.3-13

		m^3/a	mg/L	t/a	m^3/a	mg/L	t/a	m^3/a	mg/L	t/a
1	CODcr	10878	216	2.35	15599.5	190	2.96	26477.5	201	5.31
2	BOD_5		132	1.44		109	1.70		118	3.14
3			11	0.12		11	0.17		11	0.29
4			18	0.20		18	0.28		18	0.48
5			1295	14.09		1303	20.33		1300	34.41
6			1.9	0.02		2.5	0.04		2.2	0.06

3.3-13 $10878m^3/a$ COD_{Cr}

2.33t/a 0.12t/a $15599.5m^3/a$ COD_{Cr}

2.96t/a 0.17t/a $26477.5m^3/a$

COD_{Cr} 5.31t/a 0.29t/a

3.3.2.2

2.2.7.2.2

2022 2

CODcr 29.6mg/L 8.06mg/L

GB/T31962-2015 1A

3.3.2.3

1

2004

8 4 m^3/d

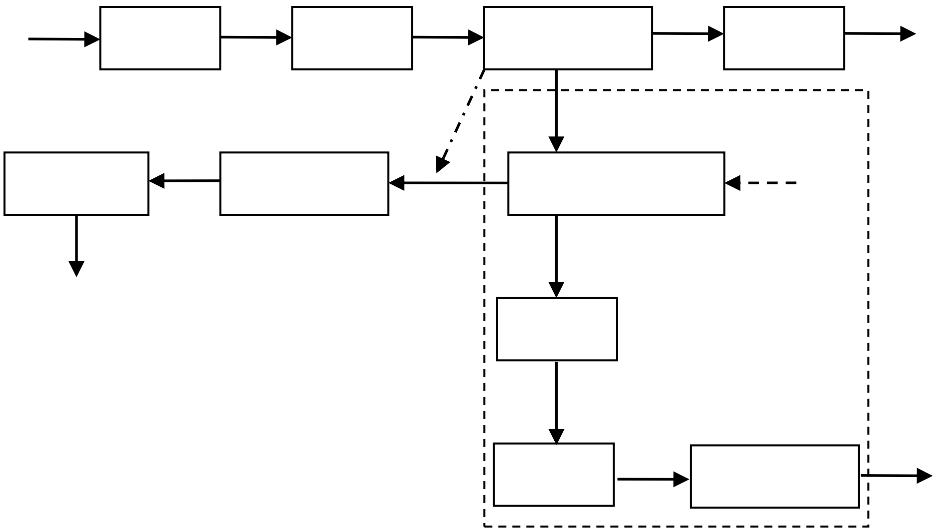
2007 9

8 m^3/d 4 m^3/d

1 A

2009 5

3.3-3



3.3-3

pH 6~9

COD_{Cr} BOD_5

(GB18918-2002) A

[2017]5

COD_{Cr} NH_3-

2

2021 1~12

3.3-14

3.3-14 2021 1~12

		pH				
	(m^3)		(mg/L)			
2021.01	1071636	6.99	14.4	0.253	0.186	6.81
2021.02	1018063	7.25	17.4	0.188	0.202	6.58
2021.03	915311	7.05	13.7	0.152	0.204	9.56
2021.04	666861	6.77	13.5	0.151	0.191	10.9
2021.05	684945	6.96	14.4	0.219	0.278	9.03
2021.06	926823	7.06	20.6	0.244	0.231	8
2021.07	1282826	7.06	17.6	0.343	0.199	8.18
2021.08	1459914	7.06	20.3	0.276	0.188	8.06
2021.09	1381393	7.13	17.1	0.219	0.142	8.45
2021.10	1294080	7.15	26.5	0.151	0.205	10.2
2021.11	1048103	7.27	28.7	0.495	0.198	9.89

2021.12	1424289	7.39	28.1	0.34	0.202	7.66
	1097854	7.1	19.4	0.253	0.202	8.61
	1459914	7.39	28.7	0.495	0.278	10.9
	666861	6.77	13.5	0.151	0.142	6.58
	10881313	/	/	/	/	/
			40	2	4	45

3.4-17

GB18918-2002 A

[2017]5

COD_{Cr} NH_3-

4

GB18918-2002 A

[2017]5 COD_{Cr} NH_3-

3237.3t/a

COD_{Cr}

15.1mg/L 0.148mg/L 6.34mg/L 0.263mg/L 0.049t/a

0.0005t/a 0.02t/a 0.0009t/a 6474.6t/a

COD_{Cr} 0.098t/a 0.001t/a 0.04t/a 0.0018t/a

3.3.2.4

3.4-18

3.3-15

3.3-15

		m^3/a	mg/L	t/a	m^3/a	mg/L	t/a
1	CODcr	10878	29.6	0.32	10878	19.4	0.21
2	BOD_5		18	0.20		10	0.11
3			8.06	0.088		0.253	0.003
4			13	0.14		8.61	0.09
5			1295	14.09		1295	14.09
6			0.2	0.002		0.2	0.002

3.3-16

		m^3/a	mg/L	t/a	m^3/a	mg/L	t/a	m^3/a	mg/L	t/a
1	CODcr	15599.5	29.6	0.46	15599.5	19.4	0.30	26477.5	19.4	0.51
2	BOD_5		18	0.28		10	0.16		10	0.26
3			8.06	0.126		0.253	0.004		0.253	0.007
4			13	0.20		8.61	0.13		8.61	0.23
5			1303	20.33		1303	20.33		1300	34.42
6			0.3	0.005		0.3	0.005		0.26	0.007

$10878m^3/a$

COD_{Cr} 19.4mg/L 0.253mg/L COD_{Cr}

0.21t/a 0.003t/a $26477.5m^3/a$

COD_{Cr} 0.30t/a 0.004t/a $26477.5m^3/a$

COD_{Cr}

		26			85	60
		36			85	60
		6			85	60
		25			90	65
		10			85	60
		50			90	65
		20			85	60
		36			85	60
		20			85	60

3.3.3.2

A

B

C

15 25dB A

GB12348-2008 3

3.3.4

2021

HW08 900-249-08

FDY

HW49 900-041-49

2

FDY

3.3-18

3.3-18

			t/a				
S_1			773	--		282-999-99	
S_3			1104.12	--		282-999-99	
S_4			157	314		282-999-99	
S_5			472.2	944.4		282-999-99	
S_2			0.1	--		HW08 (900-249-08)	
			4	3.5		282-999-99	

			0.1	0.2		282-999-99	
			5.3	4.2			
		--	2	3.5		HW49 (900-041-49)	
			1t/4a			HW08 (900-249-08)	
			2518.82 3.1	1269.8 3.5			

3.3.5

3.4-22

3.4-23

3.3-19

3.3-19

		Nm^3/a	75600	0	75600	
		t/a	12.3121	9.5483	2.7635	
		VOCs t/a	5.43	3.913	1.517	
		SO_2 t/a	1.312	0	1.312	
		NOx t/a	5.393	0	5.393	
		t/a	3.898	3.5082	0.3898	
		t/a	0.454	0.4086	0.0454	
		t/a	0.227	0.1993	0.0277	
		kg/a	0.0567	0.05103	0.00567	
		kg/a	25	22.5	2.5	
		kg/a	3	2.7	0.3	
		t/a	0.8951	0	0.8951	
		VOCs t/a	0.603	0	0.603	
		t/a	0.433	0	0.433	
		t/a	0.05	0	0.05	

		t/a	0.025	0	0.025	
		kg/a	0.0063	0	0.0063	
		t/a	0.003	0	0.003	
		t/a	0.0003	0	0.0003	
	m³/a		10878	0	10878	
	COD_{Cr} t/a		2.35	2.14	0.21	
	t/a		0.12	0.117	0.003	
	t/a		773	773	0	
	t/a		1104.12	1110	0	
	t/a		4	4	0	
	t/a		157	157	0	
	t/a		472.2	472.2	0	
	t/a		0.1	0.1	0	
	t/a		0.1	0.1	0	
	t/a		5.3	5.3	0	
	t/a		2	2	0	
	t/a		1t/4a	1t/4a	0	

		t/a	0.1942	0	0.1942	
		VOCs t/a	0.832	0	0.832	
		t/a	0.866	0	0.866	
		t/a	0.1	0	0.1	
		t/a	0.26	0	0.26	
		kg/a	0.0126	0	0.0126	
		t/a	0.006	0	0.006	
		t/a	0.0006	0	0.0006	
	m^3/a		15599.5	0	15599.5	
	COD_{Cr} t/a		2.96	2.66	0.30	
	t/a		0.17	0.166	0.004	
	t/a		314	314	0	
	t/a		944.4	944.4	0	
	t/a		3.5	3.5	0	
	t/a		0.2	0.2	0	
	t/a		4.2	4.2	0	
	t/a		3.5	3.5	0	
	t/a		1269.8	1269.8	0	

3.3-21

		Nm^3/a	126000	0	126000	
		t/a	16.2163	11.0038	5.2125	
		VOCs t/a	12.93	10.663	2.267	
		SO_2 t/a	3.936	0	3.936	
		NOx t/a	16.179	0	16.179	
		t/a	11.694	10.5246	1.1694	
		t/a	1.362	1.2258	0.1362	
		t/a	0.681	0.6079	0.0731	
		t/a	0.1701	0.15309	0.01701	

		t/a	75	67.5	7.5	
		t/a	9	8.1	0.9	
		t/a	1.0893	0	1.0893	
		VOCs t/a	1.435	0	1.435	
		t/a	1.299	0	1.299	
		t/a	0.15	0	0.15	
		t/a	0.285	0	0.285	
		kg/a	0.0189	0	0.0189	
		t/a	0.009	0	0.009	
		t/a	0.0009	0	0.0009	
	m^3/a		26477.5	0	26477.5	
	COD_{Cr} t/a		5.31	4.8	0.51	
	t/a		0.29	0.283	0.007	
	t/a		773	773	0	
	t/a		1104.12	1110	0	
	t/a		7.5	7.5	0	
	t/a		471	471	0	
	t/a		1416.8	1416.6	0	
	t/a		0.1	0.1	0	
	t/a		0.3	0.3	0	
	t/a		9.5	9.5	0	
	t/a		5.5	5.5	0	
	t/a		3t/4a	3t/4a	0	
	t/a		2518.82 3.1	1269.8 3.5	0	

3.3.7

3.3.7.1

1 1000m^3

3.3.7.2

0

3.3-22 3.3-23

3.3-22

3.3-23

		mg/m³	kg/h	mg/m³	kg/h	
P2-1 P2-2		7.7	0.232	10	45.3	
	SO_2	5.2	0.156	50		
	NO_x	21.4	0.642	50		
	VOCs	14.9	0.446	60	3.0	
		15.5	0.464		41	
		1.8	0.054	5		
		0.9	0.027	15		
		0.0002	$6.75 \quad 10^{-6}$	2	0.15	
		0.10	0.003	5	0.3	
		0.013	0.0004	8	0.3	

DB37/2376-2013 2

3.3.8

3.3-24

3.3-24

	t/a	218901.86	13805.77	10878	243585.6	+10878
	COD t/a	4.247	0.55	0.21	5.007	+0.21
	t/a	0.055	0.028	0.003	0.086	+0.003
	t/a	0.044			0.044	
	t/a	1.885		0.09	1.975	+0.09
	m^3/a	148618.2	42000	75600	266218.2	+75600
	t/a	3.672	2.3049	2.7635	8.7404	+2.7635
	VOCs	14.248	0.6086	1.517	16.3736	+1.517

	t/a					
	SO_2 t/a			1.312	1.312	+1.312
	NOx t/a			5.393	5.393	+5.393
	t/a	1.955	0.117	0.3898	2.4618	+0.3898
	t/a	0.213	0.0001	0.0454	0.2585	+0.0454
	t/a	0.497	0.0111	0.0277	0.5358	+0.0277
	kg/a	0.078	10.9	0.00567	10.98367	+0.00567
	kg/a	35.12	49.8	2.5	87.42	+2.5
	kg/a	4.96	125.7	0.3	130.96	+0.3
t/a		0	0	0	0	+0

\+ -

3.3-25

	t/a	21900	15599.5	37499.5	+15599.5
	COD t/a	0.212	0.30	0.512	+0.30
	t/a		0.004	0.004	+0.004
	t/a	0.0004		0.0004	
	t/a		0.13	0.13	+0.13
	m^3/a	247155.84	50400	297555.8	+50400
	t/a	1.92	2.419	4.339	+2.419
	VOCs t/a	3.577	0.75	4.327	+0.75
	SO_2 t/a	20.88	2.624	23.504	+2.624
	NOx t/a	49.28	10.786	60.066	+10.786

t/a

1 **A**

26.5%

73.5% Dowtherm A 258 115

12.3 528 4.02MPa 1060kg/m^3(20)

293kJ/kg 40194kJ/kg

0.99-3.36%

3B

2

0.5 6.8mg/m^3

135 113 102 122

200

3.4.2

1

6

8 10

6

FDY

2

FDY

3.4.3

1

2

3.4-2

3.4-2

GB16297-

1

4

4.1

116 ° 36 °40′

116°00′00" 116°30′00" 36°37′30" 37°02′30"

40.8km

42.4km 960km^2 9 3 1 603

42 51.4

105 308

2 2 308 107km

316 56km

70km

50 km

2.1-1

4.2

4.2.1

32.00m 22.00m 27m 32.1m

22.6m 1/7000 1/9000

3m

56.25% 17.65%

10.83% 6.94% 5.11%

3.22%

7

4.2.2

4.2.2.1

V_4^8

V_4^{10} V_4^{11} V_4^8

-

2000-3500m

250m

1 (Q)

240-300m

1 (Q4)

12-58m

15m

0.5m

1-2 2-3 l-5m

20-30m

2 (Q1 3)

90-206m

60-70m

3-6m l0m

10-20m 50-70m l00-200m

150m

200m 230m

2 (N)

500-800m

300-l000m

3 (E)

4.2.2.2

II

III

270km NEl0º-30º NW 40º-70º

- -

6.3m

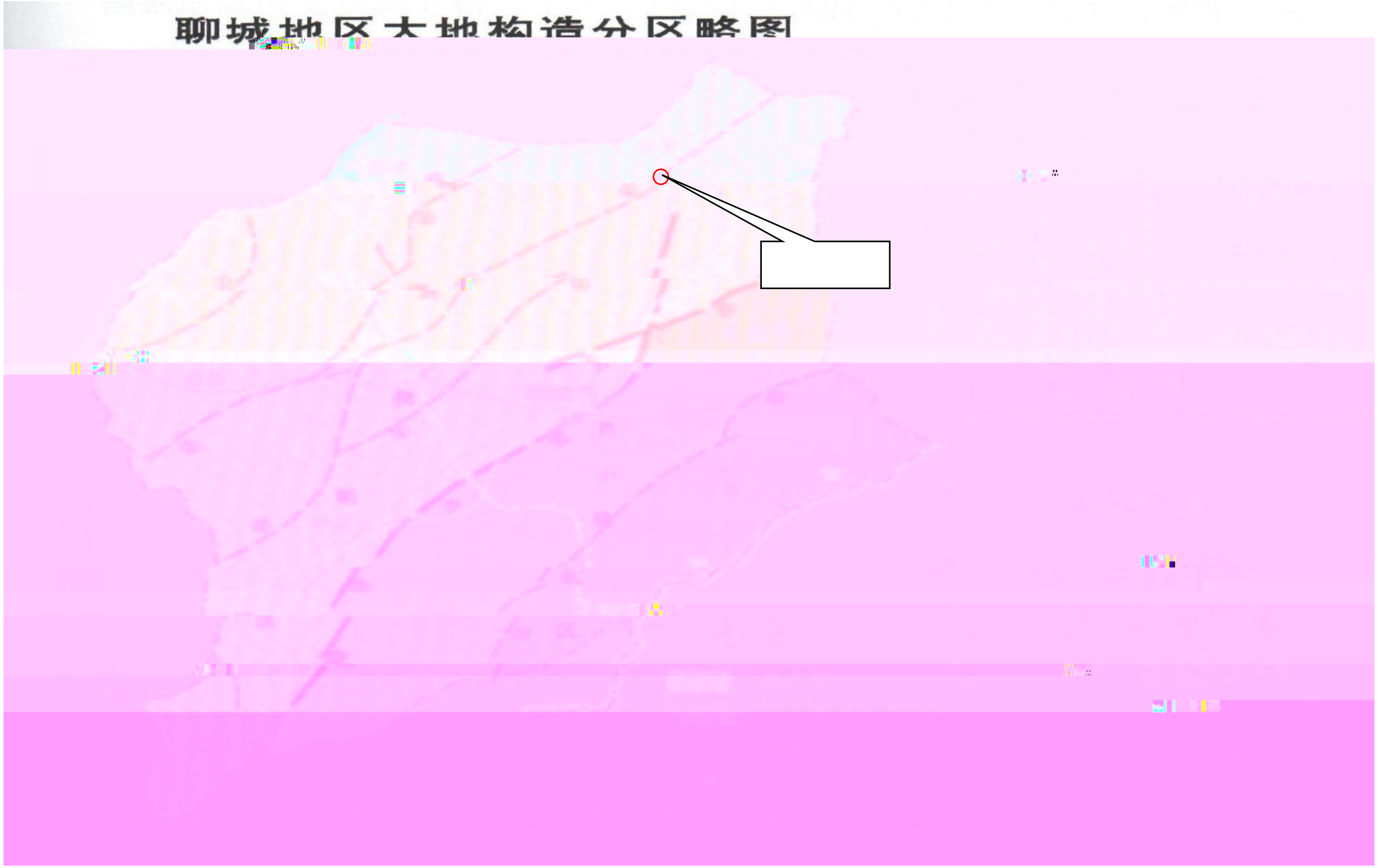
800-l000m 6500-7000m 5000-6500m 40º-45º

55km

145km

III IV V

4.2-1



4.2-1

4.2.3

4.2.3.1

4.2.3

1

-

2

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4.2.4

17

4181.2km^2

26km 393.62km^2

26km 393.6km^2 9

100km^2 100km^2

28km 432.3km^2 6 100km^2

100km^2

4.2-2

4.2.5

13.1 26.6

41.2 (1958 6 18) -3.0 -20.8

(1981 1 26) 1 -3.1 7

26.8 195 43cm 31cm

3.7m/s 4 4.7m/s

8 2.5m/s

508.8mm 7 8 9

73.2 975.9mm 1961 287.1mm 2002

3.4 1.2mm 121.6mm

56.1mm 150mm 1644.9mm

E601 1892.3mm 1994

1368.1mm 2007 10m 10 24m/s

2.3m/s 1.9m/s 2.3m/s

18% 4% 18% 20 /

4.2.6

GB18306-2015

0.15g VII

7

4.2.7

142 119

76.79% 33.41 23.21%

94.4 65.41% 8.87 6.15%

7.5 5.2% 1.46 1%

22.32 15.5% 11.01 7.71%

18.68 m^3

2.7 m^3 1.56 m^3

60m

16.7 m^3 15.9 m^3 0.8 m^3 1.34

m^3 3.9974 m^3

4.2.8

142 119

83 58%

19.9 14%

40 27%

2—3m

20 15%

4.2.9

58715.8 338500 8%

3.4.1.1

1

1

54.6

308

0.6

2

6.7

6.4

12.1

7.4

6.1

9.8

0.6 308

0.3

3.4.1.2

1064.1 25.5%

30.4 13

5

2.0

3.4.1.3

1

333.4 8.0%

9.5

0.8

0.6

0.4

13

15 2-3

2

47.6 1.1% 1.4

3

22.2 0.5%

0.6

4

146.8 3.5%

4.2

5

37.4 0.9% 1.1

6

60 1.4% 1.7

—

7 5 / 2 /

7

15.6 0.4%

0.4

3.4.1.4

263.2 6.3%

7.5

3.4.1.5

1

1206.1 28.9%

34.5

2013 36 1.0

2

65 1.6% 1.9

1

3.4.1.6

+

3.4.1.7

2018~2035

4.4-1

4.4.2

2014 12

[2014]220

2008

23km^2

316 -

322

4.4-2

HJ2.2-2018 2

4.5-2 **4.5-1**

4.5-2

			m		
1#		N	40	TSP	
		W	130		

N

2#

	4-	HJ/T 32-1999	$0.3mg/m^3$
		GB/T 15516-1995	$0.01mg/m^3$

5

4.5-4 4.5-5

4.5-6

4.5-4

			(m/s)	( )	(kPa)		/
2022.01.18-2022.01.19	13:48	S	1.6	7.3	100.34		10/7
	19:44	S	1.5	-3.2	102.27		/
	01:42	S	1.2	-3.5	102.35		/
	07:40	S	2.1	0.2	101.46		10/8
2022.01.18-2022.01.19	13:48	S	1.6	7.3	100.34		10/7
	19:47	S	1.4	-3.2	102.27		/
	01:47	S	1.3	-3.7	102.35		/
	07:46	S	2.1	0.2	101.46		10/8
2022.01.19-2022.01.20	13:45	S	1.9	5.6	102.17		10/7
	20:00	S	2.3	-2.9	102.32		/
	01:50	S	1.7	-6.3	102.50		/
	07:45	S	2.0	-6.2	102.63		9/6
2022.01.19-2022.01.20	14:02	S	1.9	5.7	102.16		10/7
	20:25	S	2.3	-2.8	102.33		/
	02:17	S	1.7	-6.3	102.50		/
	07:56	S	2.0	-6.2	102.63		9/6
2022.01.20-2022.01.21	13:50	S	1.3	1.2	103.21		10/7
	19:48	S	1.1	-2.1	102.24		/
	01:49	S	1.0	-4.7	103.31		/
	07:50	S	1.1	-4.5	103.31		10/7
2022.01.20-2022.01.21	13:50	S	1.4	1.3	102.21		10/7
	19:50	S	1.2	-2.2	103.24		/
	01:50	S	1.1	-4.6	103.31		/
	07:50	S	1.2	-4.5	103.31		10/9
2022.01.21-	13:46	S	1.8	2.7	102.24		10/7

2022.01.22	19:48	S	1.9	-2.7	102.31		/
	01:49	S	2.1	-5.9	102.49		/
	07:48	S	1.9	-6.3	102.52		9/7
2022.01.21-2022.01.22	13:47	S	1.8	2.7	102.24		10/7
	19:49	S	1.9	-2.7	102.31		/
	01:49	S	2.1	-5.9	102.49		/
	07:49	S	1.9	-6.3	102.52		9/7
2022.01.23-2022.01.24	10:27	S	2.6	1.6	102.52		10/7
	13:50	S	1.5	1.8	102.52		10/7
	19:50	S	1.2	0.6	102.53		/
	01:48	S	1.4	-2.9	102.56		/
	07:50	S	1.1	-4.2	102.58		10/8
2022.01.23-2022.01.24	10:27	S	2.0	1.5	102.53		10/7
	13:48	S	1.5	1.8	102.52		10/7
	19:47	S	1.2	0.6	102.53		/
	01:48	S	1.4	-2.9	102.56		/
	07:47	S	1.1	-4.2	102.58		10/8
2022.01.24-2022.01.25	14:00	S	1.9	2.6	102.29		10/7
	19:45	S	1.6	1.5	102.30		/
	01:45	S	1.7	-1.8	102.33		/
	07:45	S	2.0	0.4	102.34		10/8
2022.01.24-2022.01.25	13:52	S	1.9	2.6	102.29		10/7
	19:58	S	1.6	1.5	102.30		/
	02:31	S	1.7	-1.8	102.33		/
	07:51	S	2.0	0.4	102.34		10/8
2022.01.25-2022.01.26	13:31	S	1.3	4.3	102.12		3/1
	19:50	S	1.2	-1.2	102.21		/
	01:48	S	1.1	-4.1	102.51		/
	07:50	S	1.2	-4.0	102.51		3/1
2022.01.25-2022.01.26	13:48	S	1.3	4.5	102.14		3/1
	19:50	S	1.2	-1.2	102.20		/
	01:52	S	1.2	-4.2	102.50		/
	07:50	S	1.2	-4.0	102.51		3/1

4.5-5 1 mg/m³

						NH3							
		14:00	20:00	02:00	08:00	14:00	20:00	02:00	08:00	14:02	20:01	02:01	08:02
	2022.1.18-2022.1.19						0.02	0.03	0.02	0.54	1.02	1.04	0.95
	2022.1.19-2022.1.20						0.02	0.03	0.02	0.39	1.20	1.12	0.87
	2022.1.20-2022.1.21						0.02	0.02	0.02	0.70	1.02	0.95	0.67
1 #	2022.1.21-2022.1.21 2022.1.22						0.02	0.02	0.02	0.84	0.34	0.45	0.58

[redacted]

[redacted]

[redacted]

[redacted]

		14:00	20:00	02:00	08:00	14:00	20:00	02:00	08:00	14:02	20:01	02:01	08:02
	2022.1.18-2022.1.19												
	2022.1.19-2022.1.20												
	2022.1.20-2022.1.21												
2#													

3.5

4.5.1.3

1

TSP

2

GB3095-2012

(HJ2.2-2018) D 1.4-2

3

$$P_i = \frac{C_i}{C_{0i}}$$

C_i— i mg/m^3

C_{0i}— i mg/m^3

P_i— i

4

4.5-7

4.5-7

			%			%	
1#	TSP	—	—	—	0.38~0.55	0	0
	NH_3	0.03~0.15	0	0	—	—	—
		0.10~0.60	0	0	—	—	—
2#	TSP	—	—	—	0.42~0.61	0	0
	NH_3	0.03~0.15	0	0	—	—	—
		0.20~0.65	0	0	—	—	—

4.5-7

(HJ2.2-2018) D TSP GB3095-2012

p244

4.5.1.4

2021-2022

( )

7 0.8

2022

,

( )

2 3.6 2021 12

,

10 /

+

SCR

( ) VOCs

VOCs 10

( ) 2022 3

4.5.2

4.5.2.1

1

2 4.5-8 **4.5-2**

4.5-8

1#	200m	
2#	2000m	

2

2022 1 20~23 3

3

pH SS COD_{Cr} BOD_5

32

4

27			GB/T 16489-1996	0.005mg/L
28			HJ 601-2011	0.05mg/L
29		/ -	HJ 639-2012	0.4 μg/L
30				0.3μg/L
31				0.2μg/L
32	+			0.5μg/L
33		11.1 11.2	GB/T 5750.6-2006	2.5μg/L
34			HJ 755-2015	20MPN/L

5

4.5-10

4.5-10

	1#						2#					
	2022.1.20		2022.1.21		2022.1.23		2022.1.20		2022.1.21		2022.1.22	
	1.0	1.0	1.1	1.1	2.8	2.9	1.0	1.0	1.3	1.2	3.4	3.4
m	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
m	7	7	7	7	7	7	7	7	7	7	7	7
m^3/h	0.04	0.04	静流	静流	0.08	0.08	0.04	0.04	0.04	0.04	0.08	0.08
pH 值	7.1	7.1	7.2	7.2	7.2	7.3	7.1	7.2	7.1	7.3	7.3	7.3
COD_{Cr}（mg/L）	24	21	27	23	25	20	23	26	21	26	25	28

六价铬（mg/L）	未	未	未	未	未	未	未	未	未	未	未	未
铅（μg/L）	33.8	34.0	34.4	32.0	35.8	35.4	33.7	32.3	34.7	31.6	35.4	31.3
硝酸盐（mg/L）	4.11	4.03	4.10	4.15	4.10	4.09	4.23	4.16	4.02	4.06	4.16	4.15
亚硝酸盐（mg/L）	0.113	0.117	0.113	0.115	0.113	0.117	0.180	0.180	0.176	0.170	0.174	0.172
氯化物（mg/L）	408	418	363	374	360	365	448	458	441	442	457	462
（mg/L）	1.19	1.16	1.41	1.28	1.28	1.12	1.32	1.28	1.16	1.22	1.22	1.32
氰化物（mg/L）			未	未	未	未	未	未	未	未	未	未
高锰酸盐指数（mg/L）	5.4	4.8	5.6	4.9	5.4	4.7	5.5	5.3				

4.5.2.2

1

pH SS COD_{Cr} BOD_5

15

14

2

GB3838-2002

GB 3838-2002 2

SS GB5084-2021 1

1.4-3

3

1 ( )

$$S_{i,j}=\frac{C_{i,j}}{C_{s,i}}$$

$S_{i,j}$— $S_{i,j}\le 1$ $S_{i,j}$ 1

$C_{i,j}$— i j mg/l

$C_{s,i}$— i mg/l

2 --pH

$$S_{pH,j}=\frac{7.0-pH_j}{7.0-pH_{sd}} \qquad pH_j\le 7.0$$

$$S_{pH,j}=\frac{pH_j-7.0}{pH_{su}-7.0} \qquad pH_j>7.0$$

S_{pHj}—pH

pH_j—pH

pH_{sd}— pH

pH_{su}— pH

3

$$S_{DO_j}=|DO_f-DO_j|/(DO_f-DO_s) \qquad DO_j\ge DO_s$$

$$S_{DO_j} = 10 - 9\frac{DO_j}{DO_S} \qquad DO_j < DO_s$$

S_{DO_j} ——DO

DO_f —— mg/L

$DO_f = 468/(31.6+T)$ T

DO_j —— mg/L

DO_s —— mg/L

4

4.5-11

4.5-11

	1#						2#					
	2022.1.20		2022.1.21		2022.1.23		2022.1.20		2022.1.21		2022.1.22	
pH	0.05	0.05	0.10	0.10	0.10	0.15	0.05	0.10	0.05	0.15	0.15	0.15
	0.80	0.70	0.90	0.77	0.83	0.67	0.77	0.87	0.70	0.87	0.83	0.93
	0.83	0.70	0.87	0.77	0.87	0.73	0.87	0.90	0.77	0.80	0.83	0.77
SS	0.13	0.10	0.19	0.12	0.16	0.11	0.15	0.17	0.12	0.16	0.15	0.19
	0.94	0.96	0.95	0.95	0.93	0.95	0.69	0.71	0.68	0.73	0.72	0.70
	1.30	**1.33**	**1.53**	**1.60**	**1.40**	**1.43**	**1.73**	**1.70**	**1.83**	**1.87**	**1.93**	**1.97**
	0.77	0.76	0.77	0.77	0.74	0.73	0.78	0.79	0.77	0.78	0.74	0.74
	0.68	0.68	0.69	0.64	0.72	0.71	0.67	0.65	0.69	0.63	0.71	0.63
	0.41	0.40	0.41	0.42	0.41	0.41	0.42	0.42	0.40	0.41	0.42	0.42
	1.63	**1.67**	**1.45**	**1.50**	**1.44**	**1.46**	**1.79**	**1.83**	**1.76**	**1.77**	**1.83**	**1.85**
	0.79	0.77	0.94	0.85	0.85	0.75	0.88	0.85	0.77	0.81	0.81	0.88
	0.54	0.48	0.56	0.49	0.54	0.47	0.55	0.53	0.57	0.53	0.54	0.51
	0.88	0.825 3										

4.5.2.3

2021

2019

2020 5

2020

A^2O

4.5-13 **4.5-1**

4.5.3

4.5.3.1

1

8

4.5-13 **4.5-1**

4.5-13

			m	
1#		S	145	
		SW	545	
2#		--	--	
3#		--	--	

4#

5		GB/T 5750.4-2006 7.1		1.0mg/L
6		8.1	GB/T 5750.4-2006	/
7			HJ 535-2009	0.025mg/L
8			GB/T 11911-1989	0.03mg/L
9				0.01mg/L
10		4.1 4.2	GB/T 5750.6-2006	5μg/L
11		5.1	GB/T 5750.6-2006	0.05mg/L
12		9.1 9.2	GB/T 5750.6-2006	0.5μg/L
13		11.1 11.2	GB/T 5750.6-2006	2.5μg/L
14		1.1 S	GB/T 5750.6-2006	0.008mg/L
15		9.1 4-	GB/T 5750.4-2006	0.002mg/L
16			GB/T 7494-1987	0.05mg/L

28	+			0.5μg/L
29			HJ 601-2011	0.05mg/L
30	Na^+	22.1	GB/T 5750.6-2006	0.01mg/L
31	K^+	22.1	GB/T 5750.6-2006	0.05mg/L

mg/L	3.15×10^3	2.62×10^3	2.25×10^3	2.73×10^3	2.71×10^3

16

$K^+ + Na^+$ Ca^+ Mg^+ CO_3^{2-} HCO_3^-

2

GB/T14848-2017

1.5-4

3

Pi=Ci/Si

Pi—

Ci— i mg/L

Si— i mg/L

pH

pH≤7 $Pi=(7.0-pH)/(7.0-pH_{sd})$

pH>7 $Pi= (pH -7.0)/(pH_{su}-7.0)$

Pi—pH

pH—pH

pH_{sd}— pH

pH_{su}— pH

4

4.5-17

4.5-17

2022.1.24	2022.1.18

	0.05	0.40	0.05	0.05	0.73
	0.40	0.40	0.05	0.60	0.70
	0.045	0.008	0.003	0.003	0.003
	0.400	0.740	0.025	0.025	0.025
	0.84	0.86	0.03	0.90	0.93
	0.03	0.01	0.26	0.01	0.01
	0.30	0.36	0.88	0.54	0.44
	3.29	**2.99**	**2.80**	**2.57**	**2.93**
	4.32	**2.76**	**2.60**	**3.07**	**2.83**
	0.62	0.90	0.70	0.78	0.81

5

GB/T14848-2017

3

2022 1 19 -1 20 2

GB3096-2008

4

4.5-19

4.5-19 dB(A)

3

4.5-20

4.5-20 dB(A)

		LAeq	Lb	P	LAeq	Lb	P
	1#	57.4	65	-7.6	47.1	55	-7.9
	2#	58.6		-6.4	47.7		-7.3
	3#	57.7		-7.3	47.1		-7.9
	4#	58.9		-6.1	47.8		-7.2
	5#	52.0		-13	44.0		-11
	6#	52.7		-12.3	44.6		-10.4
	7#	57.1		-7.9	46.7		-8.3
	8#	55.4		-9.6	46.4		-8.6
9#		50.6	60	-9.4	40.1	50	-9.9
10#		49.9		-10.1	40.5		-9.5
11#		53.4		-6.6	43.2		-6.8

4.5-20

GB3096-2008 3

GB3096-2008 2

4C5345.8ID 26/ TJr 1 0.286 w BDC q0.0000088 BDC q0.000008871 0 595.32 841.41.87 0.48 0.48001 re 2 Tf 1 0

0.5~1.5m +
1.5~3m

4

4.5-24

4.5-25

1	pH	pH	HJ 962-2018	/
2		/	HJ 680-2013	0.01mg/kg
3				0.002mg/kg
4			GB/T 17141-1997	0.01mg/kg
5		-	HJ 1082-2019	0.5mg/kg
6			HJ 491-2019	1mg/kg
7				10mg/kg
8			HJ 491-2019	3mg/kg
9		/ -	HJ 605-2011	1.0 μg/kg
10				1.0 μg/kg
11				1.5 μg/kg
12	-1,2-			1.3 μg/kg
13	-1,2-			1.4 μg/kg
14	1,1-			1.2 μg/kg
15				1.1 μg/kg
16	1,1,1-			1.3 μg/kg
17				1.3 μg/kg
18				1.9 μg/kg
19	1,2-			1.3 μg/kg
20				1.2 μg/kg
21	1,2-			1.1 μg/kg

24	1,1,2-			1.2 µg/kg
25				1.4 µg/kg
26				1.2 µg/kg
27				1.2 µg/kg
28	+			1.2 µg/kg
29				1.2 µg/kg
30	1,1,1,2-			1.2 µg/kg
31	1,1,2,2-	/ -	HJ 605-2011	1.2 µg/kg
32	1,2-			1.5 µg/kg
33	1,4-			1.5 µg/kg
34				1.1 µg/kg
35	1,2,3-			1.2 µg/kg
36				0.057mg/kg
37	2-			0.06mg/kg
38				0.09mg/kg
39				0.09mg/kg
40				0.1mg/kg
41	[a]			0.1mg/kg
42	[b]		HJ 834-2017	0.2mg/kg
43	[k]			0.1mg/kg
44	[a,h]			0.1mg/kg
45	[1,2,3-cd]			0.1mg/kg
46	[a]			0.1mg/kg

5

HJ 964-2018

4.5-23

4.5-23(1)

	2022.2.9
	1#
	0~0.2m
	116.19757 36.84259
	5%
pH	7.92
cmol$^+$/kg	2.8
mV	466
mm/min	0.491
g/cm^3	1.43
%	50.5

4.5-23(2)

	2022.2.9			2022.2.9		
	3#			7#		
	0~0.5m	0.5~1.5m	1.5~3m	0~0.5m	0.5~1.5m	1.5~3m
	东经：116.19721° 北纬：36.84333°			东经：116.20436° 北纬：36.84593°		
	5%			5%	5%	5%
pH	7.91	7.83	8.03	7.86	8.12	8.01
cmol$^+$/kg	3.0	2.9	3.1	3.0	3.1	3.4
mV	451	443	448	457	449	468
mm/min	0.491	0.498	0.500	0.497	0.475	0.485
g/cm^3	1.47	1.50	1.53	1.45	1.51	1.53
%	49.1	48.8	48.2	49.3	48.9	48.5

1# 4.5-24 2# 3# 4# 6# 7#

4.5-25 5# 4.5-26

4.5-24 1# mg/kg

	pH						
1#	7.92	0.42	0.150	8.85	37	53	23
			C_{10}-C_{40}			+	

1#

mg/kg	0.044	0.088	0.069	0.068	0.053	0.047
mg/kg	20	27	22	23	29	26
1,1-						
1,2-						
1,1-						
-1,2-						
-1,2-						
1,2-						
1,1,1,2-						
1,1,2,2-						
1,1,1-						
1,1,2-						
1,2,3-						
1,2-						
1,4-						
+						

4.5-27

4.5-27 1 1#

	0.70	0.04							

5

5.1

6950

5.1.1

1

2 3

76dB(A) 110dB(A)

$$L_2=L_1-20\lg(r_2/r_1)$$

L_2 L_1 r_1 r_2

r_1 r_2 r_1 1

5.1-1

5.1-1 dB(A)

			20m	40m	60m	80m	100m	200m	300m	500m
1		110	84	78	74	72	70	64	60	56

2		97	71	65	61	59	57	51	47	43
3		83	57	51	47	45	43	37	-	-
4		85	59	53	49	47	45	39	-	-
5		85	59	53	49	47	45	39	-	-
6		72	46	40	36	-	-	-	-	-
7		97	71	64	61	59	57	51	47	43
8		83	57	51	47	45	43	37	-	-
9		76	50	44	40	38	36	-	-	-
10		90	64	58	54	52	50	44	40	36
11		78	52	46	42	40	38	-	-	-
12		80	54	48	44	42	40	34	-	-
13		84	58	52	48	46	44	38	-	-
14		110	84	78	74	72	70	64	60	56
15		105	79	73	69	67	65	59	55	51
16		85	59	53	49	47	45	39	-	-

4.1-1

100m 70dB(A) 500m

56dB(A) 4.1-2

1~5dB(A)

15dB(A) 100m

145m

5.1-2 dB(A)

70	55

5.1.2

5.1.3

5.1.4

5.1.5

5.1.6

5.1.6.1

1

2

3

4

5

5.1.6.2

1

2.5m

1.8m

2

2000 /100

3

4

1 2

5

6

7

8

9

40 10

15

10

11

12

13

5.1.6.3

5.1.6.4

5.1.6.5

5.1.7

5.2

5.2.1

20 2001 2020

+ 4

20 2001 2020

22.0m/s 2005 41.5

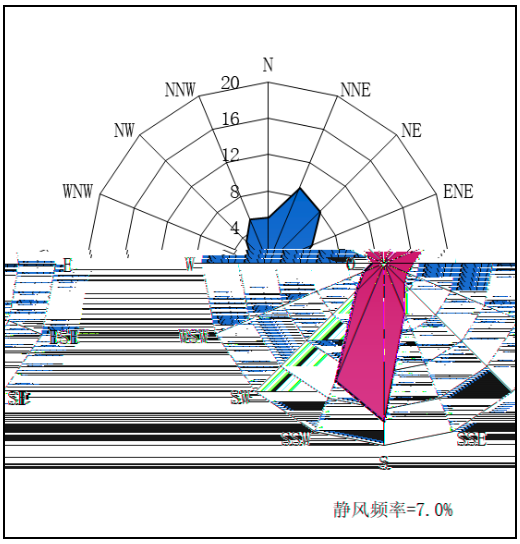
2013 -19.2 2001 802.9mm 2009 20

5.2-1 20 5.2-2 5.2-1

20

5.2-1 20 2001 2020

5.2-2 20 2001 2020



5.2-1 20 2001-2020

5.2.2

HJ2.2-2018 5.3

5.2.2.1

HJ2.2-2018

Pi Pi

$$P_i = \frac{C_i}{C_{0i}} \times 100\%$$

P_i i %

C_i i mg/m^3

C_{0i} i mg/m^3

AERSCREEN

5.2-3

5.2.-4 5.2-5 5.2-2

5.2-3

/	/	
		50
/		41.5
/		-19.2
	/m	90m
	/km	/
	/°	/

5.2-4

										6.75 10^{-7}kg/h 0.003kg/h 0.00004kg/h

4.2-5

										/ kg/h							
	X	Y	/m	/m	/m	/°	/m	/h			VOCs						
	116.196E	36.846N	29	78	62	10	27	8400		0.137	0.0223						
	116.199E	36.846N	29	90	25	10	33	8400		0.0116	0.0495	0.0514	0.006	0.003	7.5 10^{-7}	0.0004	7.1 10^{-5}
	116.193E	36.843N	30	66	47	10	33	8400		0.0232	0.099	0.1208	0.012	0.006	1.5 10^{-6}	0.0008	1.42 10^{-4}

4.2-4

			/m	/m	/m	/ m/s	/	/h		/ kg/h
	X	Y								
DA012	116.198E	36.849N	29	40	0.5	3.54	30	8400		0.00364kg/h VOCs 0.00855kg/h
DA022	116.196E	36.849N	29	30	0.5	4.95	30	8400		0.0276kg/h VOCs 0.0

4.5

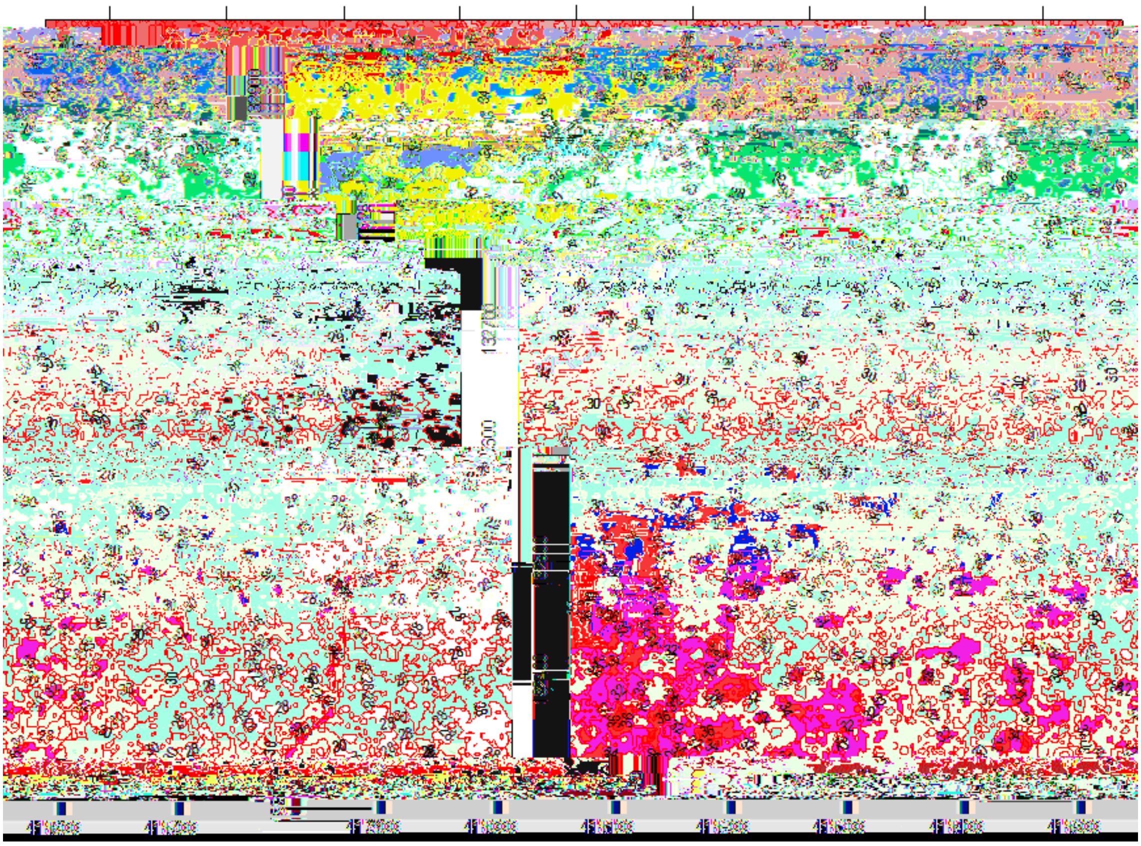
DA020	116.200E	36.849N	29	30	0.8	1.79	20	8400		0.00512kg/h VOCs 0.0175kg/h 0.00724kg/h 0.00212kg/h 0.00367kg/h 0.00039kg/h
DA016	116.199E	36.849N	29	30	0.8	3.48	20	8400		VOCs 0.0213kg/h
DA021	116.200E	36.849N	29	30	0.8	3.96	20	8400		VOCs 0.0320kg/h 0.000388kg/h
DA031	116.196E	36.848N	29	15	0.35	25.33	20	7200		0.0402kg/h
DA005	116.197E	36.848N	29	26	0.4	11.06	20	2400		0.0254kg/h VOCs 0.00679kg/h 0.000111kg/h
DA007	116.197E	36.848N	29	15	0.4	14.38	20	2400		VOCs 0.049kg/h
DA008	116.197E	36.848N	29	15	0.4	9.95	20	2400		0.0169kg/h
DA025	116.196E	36.847N	29	30	0.5	4.95	30	8400		0.01kg/h VOCs 0.0105kg/h
DA024	116.196E	36.847N	29	30	0.6	7.86	30	8400		0.0191kg/h VOCs 0.0216kg/h
DA018	116.196E	36.847N	29	30	1.2	9.83	30	8400		0.0108kg/h VOCs 0.207kg/h
DA029	116.196E	36.848N	29	30	0.80	5.53	30	8400		0.0292kg/h VOCs 0.479kg/h
DA001	116.190 E	36.844 N	30	150	4	4.17	40	8760		SO_2 2.393kg/h NO_X 5.63kg/h 0.22kg/h
DA002	116.186E	36.844N	30	15	0.6	10.33	20	4800		1.41×10-5kg/h 0.065kg/h
P6-1	116.199E	36.845N	29	15	0.3	9.04	20	8400		0.0014kg/h 0.00014kg/h 7.02×10^{-7}kg/h 4.88×10^{-4}kg/h 1.19×10^{-5}kg/h
P6-2	116.199E	36.845N	29	25	0.3	21.23	20	8400		0.039kg/h VOCs0.012kg/h 5.95×10^{-5}kg/h 8.99×10^{-5}kg/h 5.58×10^{-4}kg/h 0.002023kg/h 0.001635kg/h
P6-3 P6-4	116.199E	36.845N	29	35	2.4	1.47	20	8400		0.259kg/h VOCs0.039kg/h

P6-5										0.0009kg/h 0.001026kg/h 0.002688kg/h 0.0186kg/h 0.00621kg/h
P6-6	116.199E	36.845N	29	35	0.8	4.42	20	8400		VOCs0.0122kg/h 0.0000595kg/h 0.000113kg/h 0.00109kg/h 0.00591kg/h 0.00224kg/h
P6-7	116.200E	36.845N	29	35	0.8	4.42	20	8400		VOCs0.00925kg/h 0.0000595kg/h 0.0000578kg/h 0.00159kg/h 0.00486kg/h
P6-8	116.200E	36.845N	29	15	0.3	9.04	20	8400		0.0147kg/h 0.000038kg/h

DA012 A DA022 B DA017 DA026 DA023 DA028 DA027 DA013 DA019 DA014 DA015 DA020 DA016 DA021 DA031 DA005 DA007 DA008 DA025 DA024 DA018 DA029 DA001 DA002 P6-1 P6-2 P6-3 P6-4 P6-5 P6-6 P6-7 P6-8

4.2-5

										/ kg/h							
	X	Y	/m	/m	/m	/ °	/m	/h			VOCs						
	116.199E	36.845N	57	90	20	0	40	8400		0.0119	0.0672	0.0119	3.6×10^{-6}	0.0013	0.006	0.0144	0.0013



5.2-2

5.2.2.2

5.2-6

		mg/m³	m	$D_{10\%}$	mg/m³	% P_{max}
P1-1		0.004342	258		0.45	0.96
	VOCs	0.005265	258		2	0.26
P1-2		0.005697	258		0.45	1.27
	VOCs	0.002116	258			

		0.000015	139		0.2	0.01
		2 10^{-7}	139		0.2	0.0001
P2-1		0.000703	139		0.45	0.16
	SO_2	0.000762	139		0.5	0.15
	NO_X	0.003135	139		0.20	1.25
	VOCs	0.003135	139		2	0.16
		0.000227	139		0.2	0.11
		0.000026	139		0.05	0.05
		3 10^{-9}	139		0.11	2.7 10^{-6}
		0.000015	139		0.2	0.01
		2 10^{-7}	139		0.2	0.0001
P2-2		0.000703	139		0.45	0.16
	SO_2	0.000762	139		0.5	0.15
	NO_X	0.003135	139		0.20	1.25
	VOCs	0.003135	139		2	0.16
		0.000227	139		0.2	0.11
		0.000026	139		0.05	0.05
		3 10^{-9}	139		0.11	2.7 10^{-6}
		0.000015	139		0.2	0.01
		2 10^{-7}	139		0.2	0.0001
		0.006556	72		0.9	0.73
	VOCs	0.002462	72		2	0.12
		0.001281	46		0.9	0.14
	VOCs	0.005487	46		2	0.27
		0.005711	46		0.2	2.86
		0.000659	46		0.05	1.32
		0.000083	46		0.11	0.08
		0.00004	46		0.2	0.02
		0.000004	46		0.2	0.002
		0.00219	42		0.9	0.24
	VOCs	0.009381	42		2	0.47

		0.009764	42		0.2	4.88
		0.001127	42		0.05	2.25
		0.000142	42		0.11	0.13
		0.000068	42		0.2	0.03
		0.000007	42			

2	P1-2		3.5	0.105	0.882	10	23
		VOCs	1.3	0.039	0.326	60	3.0
			4.8	0.144	1.2095	10	45.3

P1-3 P2-1

3 P2-3

							0.15
						0.08	0.025 0.05 0.075
					GB14554-1993 1	1.5	0.433 0.866 1.299
			VOCs			2.0	0.416 0.832 1.248
					6 DB37/801.6-2018 3	0.1	0.0063kg/a 0.0126kg/a 0.0189kg/a
						0.2	0.003 0.006 0.009
						0.2	0.0003 0.0006 0.0009

[redacted]

P2-1 P2-2	SO_2	5.2	0.156	5.2	0.156	50					
	NO_x	21.4	0.642	21.4	0.642	50					
	VOCs	14.9	0.446	14.9	0.446	60	3.0				
		15.5	0.464	15.5	0.464		41				
		1.8	0.054	1.8	0.054	5					
		0.9	0.027	0.9	0.027	15					
		0.0002	6.75 10^{-6}	0.0002	6.75 10^{-6}	2	0.15				
		0.10	0.003	0.10	0.003	5	0.3				
		0.013	0.0004	0.013	0.0004	8	0.3				

5.2.6

5.2.7

5.2-10

5.2-10

		=5 QS	# QS	# QS
	SO_2+NO_X	G	G	G
		SO_2 NO_X		
		2019		

		AERMO	ADMS	AUSTAL200	EDMS/ + :	CALPUF ,		
		QS			QS		# QS	
					63 63			
		C			C >10			
			C		C			
			C		C			
	1h	h		C		C		
		C				C		
		Q -				k>-		
		VOCs SO_2 NO_x						
		) m						
		SO_2:(3.936)t/a	NOx:(16.179)t/a		:(4.3005)t/a	VOCs:(2.267)t/a		

5.3

5.3.1

GB/T31962-2015 1A

5.3-1

5.3-2 5.3-3

5.3-1

1		COD_{Cr} BOD_5			T1			DW001		

2A

					GB18918-2002 A COD_{Cr} S M2 NH_3-4 S M2					70
										5

4.3-3

				/ mg/L
1	DW001	COD_{Cr}	GB/T31962-2015 1A	500
		BOD_5		350
				45
				70
				5
		COD_{Cr}		300
				20
		BOD_5		150

5.3.2

(HJ2.3-2018) B

5.3.3

GB/T31962-2015 1A

(GB18918-2002) A

[2017]5

COD_{Cr} S M2 NH_3-4 S M2

26477.5m^3/a

COD_{Cr}

BOD_5 29.6mg/L 18mg/L 8.06mg/L

13mg/L 0.78t/a 0.48t/a 0.214t/a 0.34t/a

26477.5m^3/a COD_{Cr} BOD_5 0.51t/a 0.26t/a

0.007t/a 0.23t/a

5.3.4

5.3.4.1

2004

8 4 m^3/d

2007 9

8 m^3/d 4 m^3/d

1 A 2009

5 8

16km

3.4-3 3.4.2.3

5.3.4.2

8 m^3/d 2021.1-12

3.66 m^3/d $75.65m^3/d$

0.17%

) 5 I S M2 BOD_5 S M2 S M2

) 5 I S M2

BOD_5 S M2 S M2

5.3.5

$26477.5m^3/a$

COD_{Cr} 0.51t/a NH_3-N

0.007t/a COD 40mg/L

5.3.6

5.3-4

5.3-4

		pH	
		(	
		40% 40%	

			pH SS COD_{Cr} BOD_5	2
		km km^2		
		pH SS COD_{Cr} BOD_5		
		km km^2		

pH COD_{cr} TP TN BOD_5

5.4

5.4.1

5.4.1.1

2 1 2

2 1 2

1 3 7

1 2 3

4 5 6 7

1

2 6

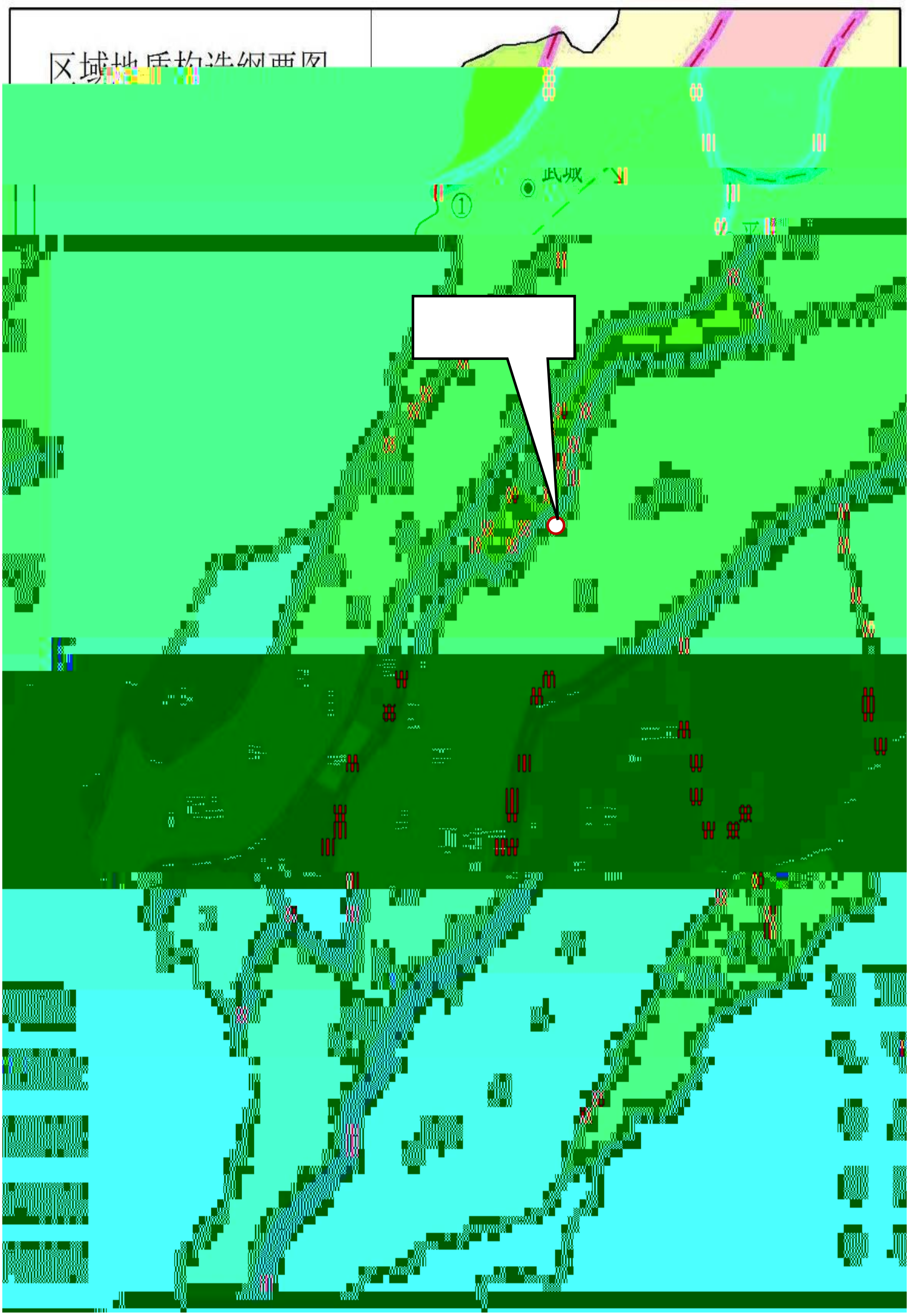
4 5

3

GB50011-2001

7 0.15g

5.4-1



5.4-1

5.4.1.2

-

- -

(50m) (2g/L)

(50-120m)(2-5g/L)

120-140m (2g/L)

5.4.2

90m

8

1 :

:0.80~1.50m 1.06m :-1.40~-0.70m -0.96m

0.80~1.50m 1.06m

2 :

2.60~3.50m 3.10m

-4.40~-3.70m -4.06m 3.80~4.50m 4.16m

3

2.00~3.00m 2.51m

-6.90~-6.30m -6.57m 6.40~7.00m 6.67m

4

1.00~2.30m 1.78m

-8.70~-7.90m -8.35m 8.00~8.80m 8.45m

5 -

7.60~9.00m 8.32m

-17.00~-16.20m -16.67m 16.30~17.10m 16.77m

6 -

1.30~2.50m 1.78m

-18.80~-18.20m -18.44m 18.30~18.90m 18.54m

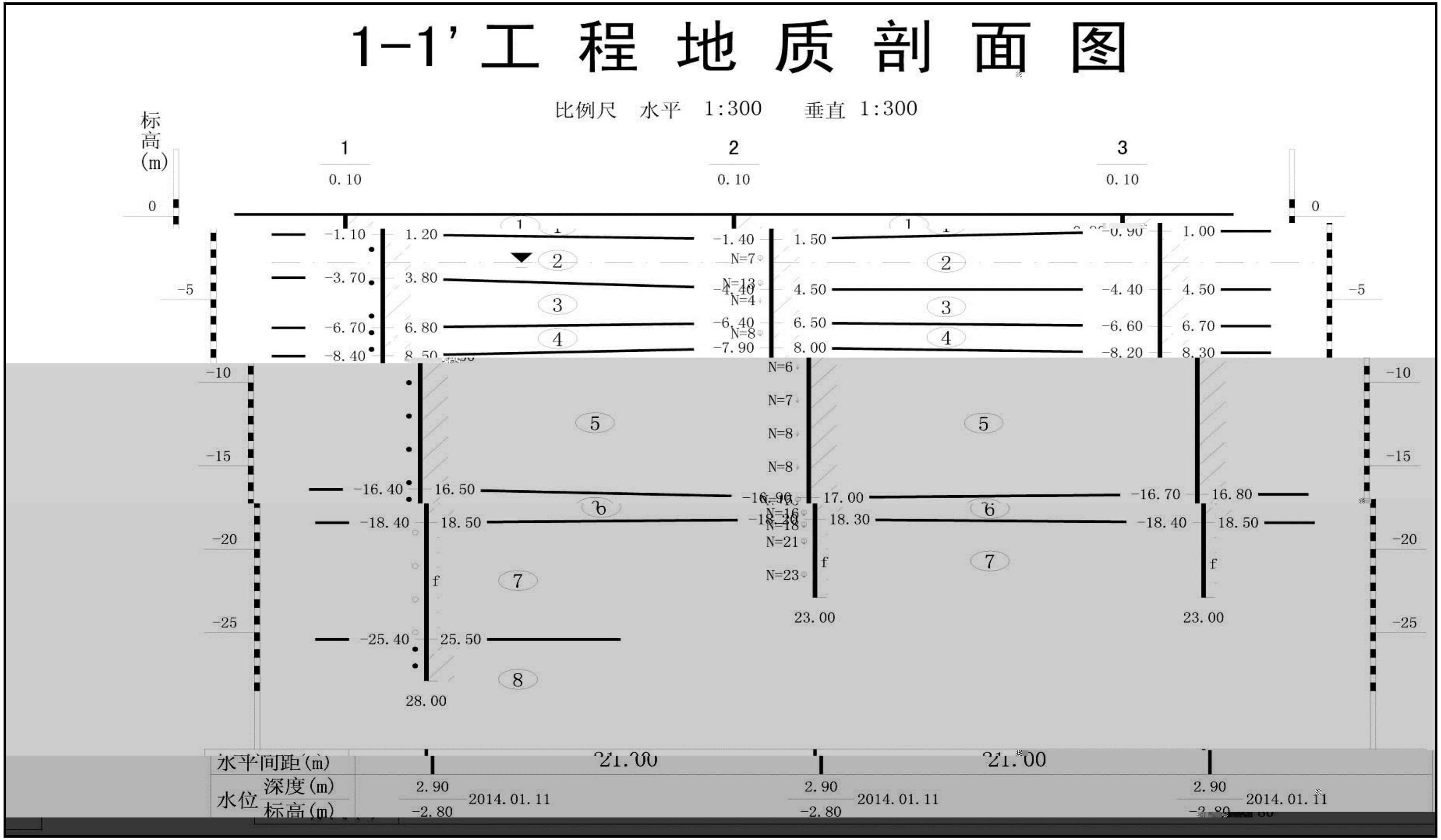
7

6.10~7.10m 6.68m -25.40~-24.70m

-25.08m 24.80~25.50m 25.18m

8

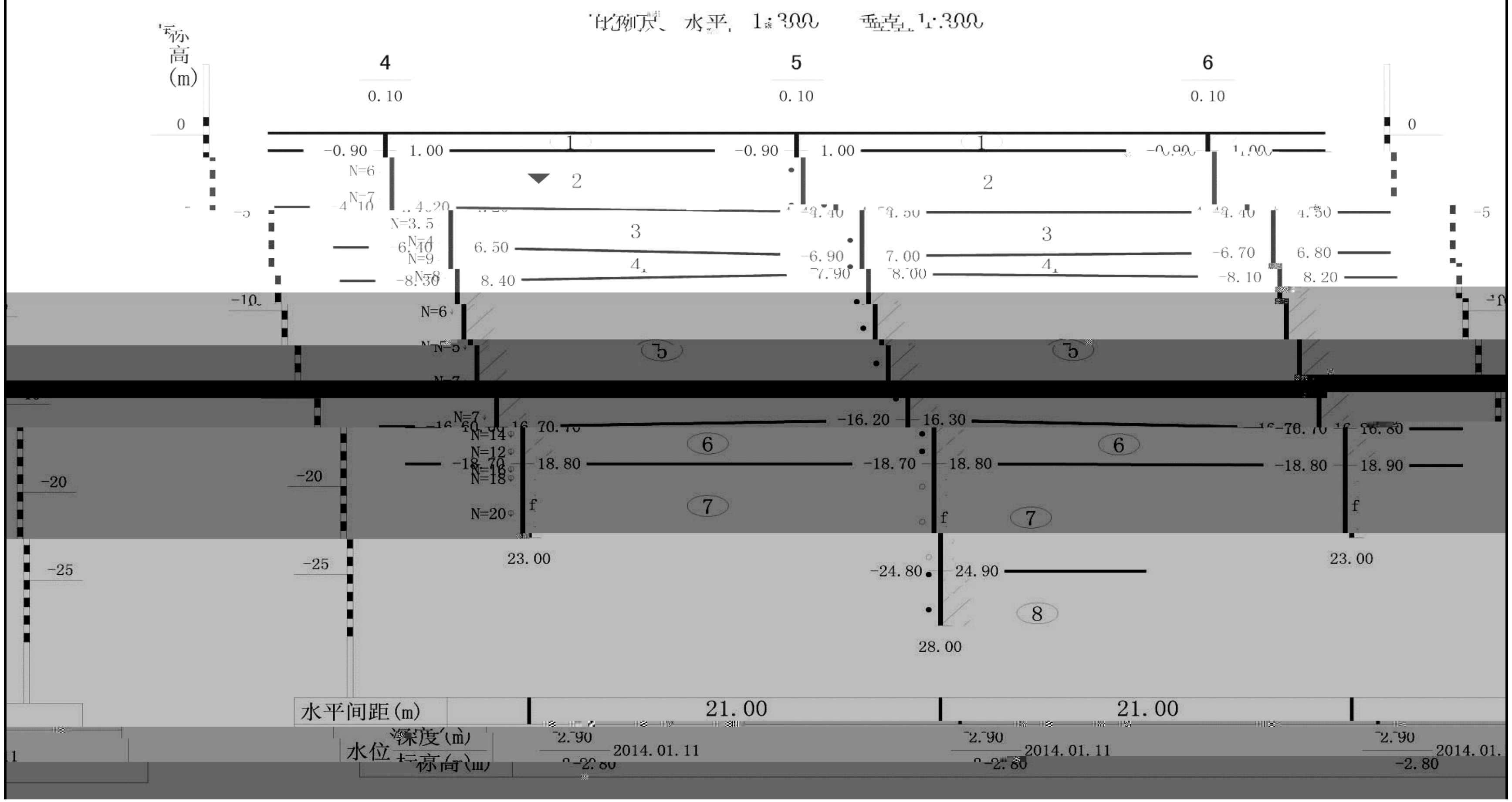
5.4-2~5.4-5

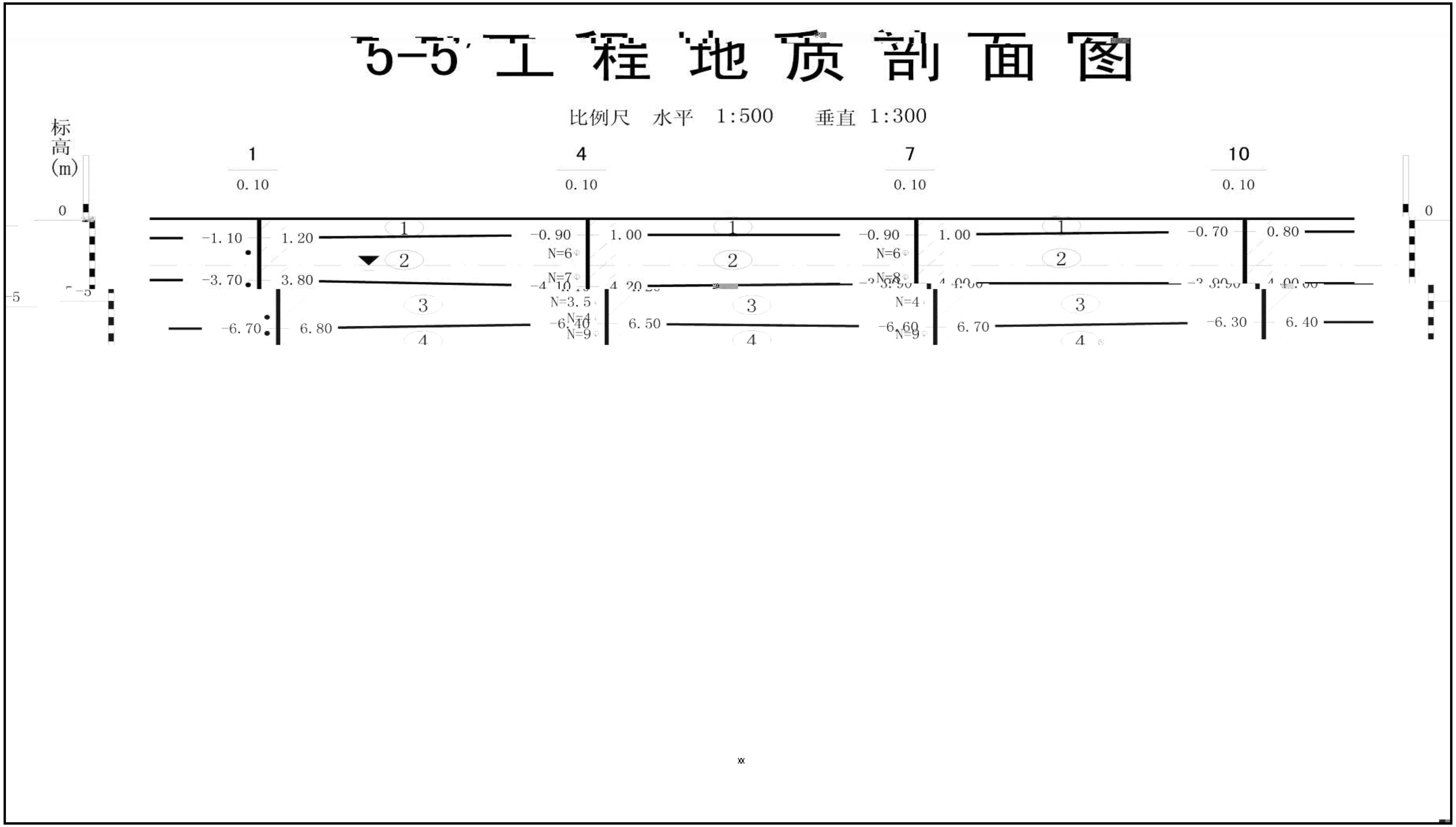


1-1’工 程 地 质 剖 面 图
比例尺 水平 1:300 垂直 1:300
标高(m)
1
0.10
2
0.10
3
0.10
0
-5
-10
-15
-20
-25
-1.10 1.20
-3.70 3.80
-6.70 6.80
-8.40 8.50
-16.40 16.50
-18.40 18.50
-25.40 25.50
28.00
-1.40 1.50
N=7
N=13
-4.40 4.50
N=4
-6.40 6.50
N=8
-7.90 8.00
N=6
N=7
N=8
N=8
-16.90 17.00
N=16
-18.20 18.30
N=18
N=21
N=23
23.00
-0.90 1.00
-4.40 4.50
-6.60 6.70
-8.20 8.30
-16.70 16.80
-18.40 18.50
23.00
1
2
3
4
5
6
7
8
f
水平间距(m)
21.00
21.00
水位 深度(m)
标高(m)
2.90
-2.80
2014.01.11

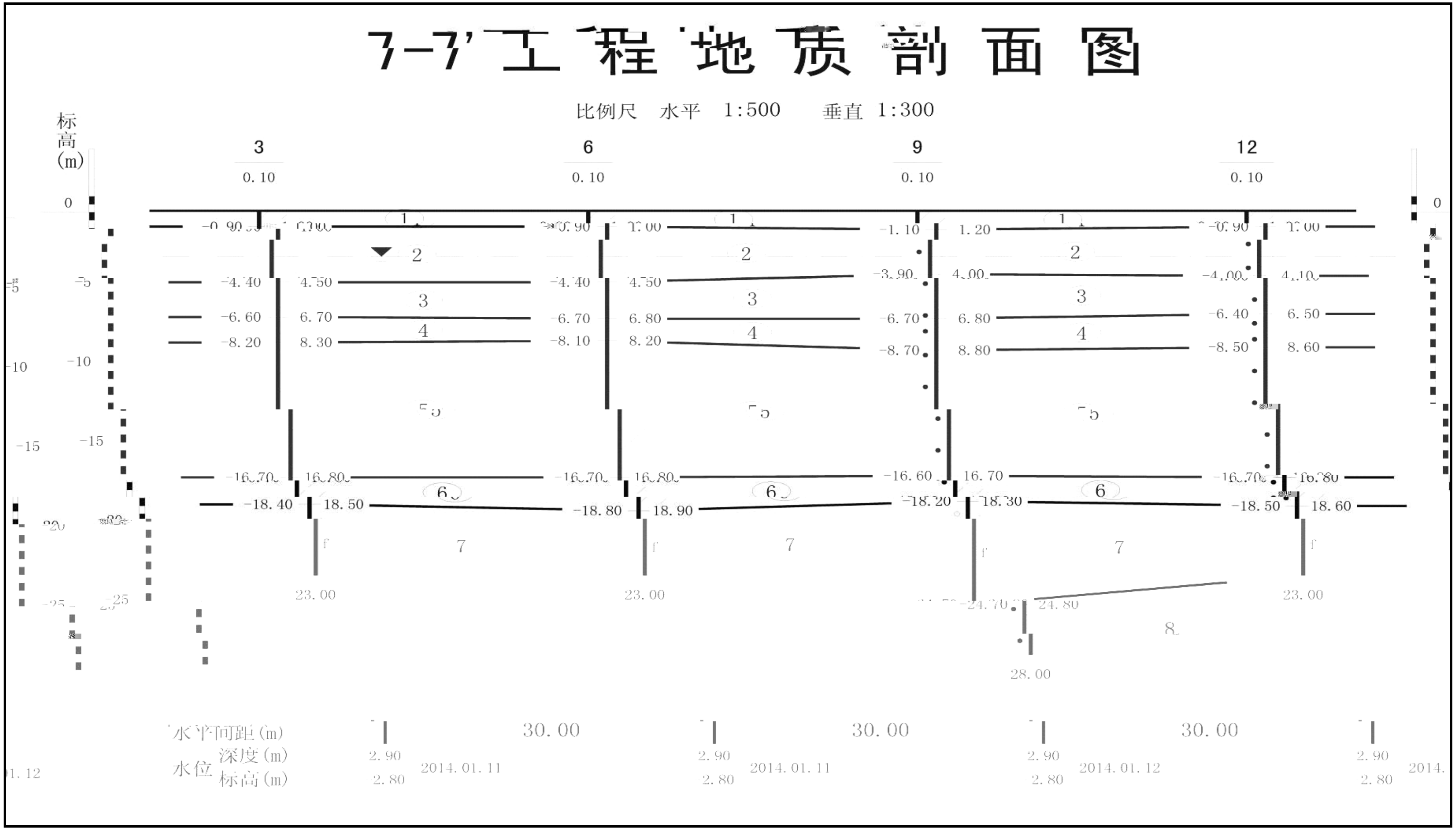
5.4-2

2-2’工程地质剖面图


比例尺：水平 1:300 垂直 1:300
标高(m)
4
0.10
5
0.10
6
0.10
0
-5
-10
-20
-25
21.00
21.00
23.00
28.00
23.00
水平间距(m)
水位 深度(m) 标高(m)
2014.01.11


5-5 工程地质剖面图
比例尺 水平 1:500 垂直 1:300
标高 (m)
1
0.10
4
0.10
7
0.10
10
0.10
0
-5
-1.10
1.20
-3.70
3.80
-6.70
6.80
-0.90
1.00
N=6
N=7
N=3.5
N=4
N=9
6.50
-6.40
-0.90
1.00
N=6
N=8
N=4
N=9
-6.60
6.70
-0.70
0.80
-6.30
6.40
1
2
3
4

5.4-4


7-7' 工程地质剖面图
比例尺 水平 1:500 垂直 1:300
标高 (m)
3
6
9
12
0.10
水平间距(m)
30.00
水位 深度(m)
水位 标高(m)
2.90
2.80
2014.01.11
2014.01.12
23.00
28.00

5.4-5

5.4.3

5.4.3.1

1

HJ610-2016

HJ610-2016 A O

119

4.4-1

2

HJ610-2016

4.4-2

4.4.3.2

HJ610-2016

QS^2

4.4-3

	km^2	
	6-20	

1000m 1000m

2000m 6km^2

5.4.4

5.4.4.1

.4.4.1

1

GB/T31962-2015 1A

2

5.4.4.3

$100km^2$

5.4-6

2km

5.4.4.4

1

2

3

4

6m 1.0×10^{-7}cm/s

1.5m 1.0×10^{-7}cm/s

5.4-4 **5.4-7**

5.4-4

		600 3:7 300 C30	6.0m 1.0×10^{-7}cm/s
		100 C10 20 ±0.00 C35	1.5m 1.0×10^{-7}cm/s
		3:7 300	--

C30 P8

250mm 150mm

1.0mm

2mm

100m

2

1m

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

$^{-10}$cm/s

1.5m 1×10^{-7}cm/s

C25 P6

100mm

P6

1.0mm 0.3%

HDPE

4.4.4.5

1

5.4-5

5.4-5

		300mm 400mmC30	P8	6.0m 1.0×10^{-7}cm/s	
		300mm3:7 200mmC30	P6		
		2500mm 350mmC30	P8		

100 C10
20 ±0.00
C35

2

5.4.4.6

1

5.4.-7

5.4-6

5.4-7

	W1	W2	W3	W	
	10 20	11 06	10 20	10 20	
pH ( )	7.6 20.7	7.9 19.5	7.8 20.3	7.7 19.8	H
(μg/L)	ND	ND	ND	ND	
(μg/L)	ND	0	ND	ND	500
(mg/L)	0.018	ND	ND	0.046	1
(mg/L)	ND	ND	ND	ND	0.05
(μg/L)	ND	ND	ND	ND	2.0
(Bq/L)	0.054	0.025	0.026	0.050	0.5
(Bq/L)	0.037	0.005	0.006	0.012	1.0
(mg/L)	ND	ND	ND	ND	0.05
(μg/L)	ND	ND	ND	ND	0.01
(mg/L)	**849**	387	378	**1260**	**450**
(mg/L)	0.0013	0.0016	0.0018	0.0010	0.002
(mg/L)	0.82	0.92	0.66	0.53	1.0
(mg/L)	0.379	**0.526**	0.138	0.046	0.5
(mg/L)	**872**	**257**	221	**776**	**250**
(μg/L)	ND	0.09	ND	ND	0.001
(NTU)	ND	ND	ND	ND	3
(mg/L)	**2750**	**1930**	**1260**	**2530**	**1000**
(μg/L)	ND	ND	ND	ND	700
(mg/L)	ND	ND	ND	ND	
(mg/L)	0.29	0.13	0.27	0.29	
(μg/L)	0.6	3.1	2.0	ND	10
(mg/L)	6.14	0.04	0.18	4.48	20
(mg/L)	ND	ND	ND	ND	0.02
(mg/L)	**307**	**328**	**250**	**516**	**250**
(mg/L)	ND	ND	ND	ND	0.08
(mg/L)	2.48	1.80	1.44	1.84	3.0
( )	ND	ND	ND	ND	15
(μg/L)	ND	ND	ND	ND	10
(mg/L)	**606**	**662**	**334**	**443**	**200**

(μg/L)	4.52	ND	1.40	2.94	300
(μg/L)	0.76	ND	ND	0.12	10
(μg/L)	16.7	53.5	0.44	0.56	1000
(mg/L)	0.048	0.036	0.024	0.044	0.20
(mg/L)	0.014	0.014	0.015	ND	1.00
(μg/L)	79.0	74.5	286	392	100
(μg/L)	0.08	ND	ND	ND	5
(mg/L)	ND	ND	ND	ND	0.3
	, ,	, ,	, ,	, ,	

GB/T14848-2017

5.4.4.7

5.4.5

5.5

80~90dB(A)

5.5.1

5.5-1

5.5-2

5.5-1 dB(A)

					dB(A) 1m	dB(A)
		1			80	55
		1			95	70
		31			95	70
		1			80	55
		1			80	55
		1			85	65
		2			85	60
		1			85	60
		26			85	60
		36			85	60
		6			85	60
		25			90	65
		10			85	60
		50			90	65

		20			85	60
		36			85	60
		20			85	60

5.5-2

		m			
		1#	2#	3#	4#
		370	30	100	390
		310	40	100	325
		335	35	130	370
		365	40	105	380
		365	35	105	385
		360	50	110	370
		310	30	100	330
		330	45	135	365
		125	20	160	305
		30	70	350	300
		30	70	350	300
		40	30	110	330
		50	40	110	320
		35	30	230	270
		75	10	230	230
		10	10	195	200
		20	20	235	275

5.5.2

4

5.5.2.1

HJ2.4-2009

A

$L_A(r) \quad L_{Aref}(r_0) \quad (A_{div} \quad A_{atm} \quad A_{bar} \quad A_{gr} \quad A_{misc})$

$L_A(r)$ r A dB(A)

$L_{Aref}(r_0)$ r_0 A dB(A)

A_{div} A dB(A)

A_{atm} dB(A)

A_{bar} A dB(A)

A_{gr} dB(A)

A_{misc} dB(A)

i A $LA_{in,i}$ T

$t_{in,i}$ j A $La_{out,j}$ T

$t_{out,j}$

$$Leq(T) \quad R M : A \sum_{i=1}^{N} {}_{in,i}10^{0.1LAin,i} \quad \sum_{j=1}^{M} {}_{out,j}10^{0.1LAiout,j}]$$

T N M

5.5.2.2

1 A

a $Adiv=20Lg(r/ro)$

b L_o

$r>L_o$ $ro>L_o$ $Adiv=20Lg(r/ro)$

$r<L_o/3$ $ro<L_o/3$ $Adiv=10Lg(r/ro)$

$L_o/3<r<L_o$ $L_o/3<ro<L_o$ $Adiv=15Lg(r/ro)$

2 Aatm

3 Abar

0 10dB(A)

5dB(A)

4 Agr

5 Amisc

5.5.2.3

5.5-3

5.5-4

4.5-3

1#			36.66	65	-28.34	36.66	55	-10.99
2#			44.01		-20.99	44.01		-21.03
3#			33.97		-31.03	33.97		-30.44
4#			24.56		-40.44	24.56		-13.16
5#			41.84	65	-23.16	41.84	55	-10.85
6#			44.15		-20.85	44.15		-34.16
7#			20.84		-44.16	20.84		-34.98
8#			20.02		-44.98	20.02		-31.52
9#			23.48	60	-36.52	23.48	50	-26.52
10#			25.67		-34.33	25.67		-24.33
11#			22.34		-37.66	22.34		-27.66

4.5-4 dB A

1#			57.4	36.7	36.66	57.47	65	-7.53	47.1	36.7	36.66	47.82	55	-7.18
2#			58.6	42.0	44.01	58.84		-6.16	47.7	42.0	44.01	50.00		-5
3#			57.7	19.5	33.97	57.72		-7.28	47.1	19.5	33.97	47.31		-7.69

4#	58.9	19.1	24.56	58.90	-6.1	47.8	19.1	24.56	47.83	-7.17

4#	58.9	19.1	24.56	58.90	-6.1	47.8	19.1	24.56	47.83	-7.17

4.6-2

4.6-2

40m

1000m

4

HJ964-2018 4.6-3

4.6-3

									-
								-	-

4.6.1.2

1

HJ964-2018 8.2

1.0km

2

50

3

4

5

9#T Is-Ls-Rs / pb×A×D

9 g/kg

Is g

17.01g/a 7500g/a

900g/a 73100g/a

Ls g 0

Rs g 0

pb kg/m^3 14896kg/m^3

A m^2

200m 4400000m^2

D 0.2m

n a

E

9#9H 9

Sb g/kg

S g/kg

6

n

5.6-4

5.6-4 1

	9 mg/kg	S mg/kg	9 mg/kg	S mg/kg	9 mg/kg	S mg/kg	9 mg/kg	S mg/kg
10	1.29763E-05	1.39263E-05	5.72149E-05	5.78649E-05	0.000686578	0.000687178	0.055765428	

20	2.59527E-05	2.69027E-05	0.00011443	0.00011508	0.001373157	0.001373757	0.111530856	
30	3.8929E-05	3.9879E-05	0.000171645	0.000172295	0.002059735	0.002060335	0.167296285	
40	5.19053E-05	5.28553E-05	0.000228859	0.000229509	0.002746314	0.002746914	0.223061713	
50								

5.6.1.4

5.6-5

5.6-5

			GB15618-2018 1	

5.6.1.5

5.6-6

5.6-6

		W 40m			
		VOCs SO_2 NO_X TSP			
		+			
		a b c d			
		4.5-23			
			8	2	0~0.2m
			6	0	0~0.5m 0.5~1.5m 1.5~3m
		pH			

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

5.6-7

		--	2	3.5						HW49 (900-041-49)	T/In	
			1t/4a					4		HW08 (900-249-08)	T I	
			2524.7 3.1	1269.8 3.5								

5.6.3

5.6.3.1

5.6.3.2

2021

5.6.3.3

5.6.4

5.6.4.1

GB18599-2020

1

2

1×10^{-7}cm/s

3 GB1556.2-1995

4

5.6.4.2

1

2

GB18597-2001 2013

a.

b.

c.

d.

1/5

e.

f.

100mm

3

4

Ã130t

5 130t/h 5 2 24MW

SO_2 NO_X

2015 -

VOCs

16cm 1.5km

30m^3 24kg

5.7-2

5.7-2

			t/a	t/a		
			31000	885		
			0.218	0.49	800L/	
		-	1/4a	1		
			70	6		
		37%	105	2.54 0.94	3.9m^3 1	
		20-25%	75	2.84	3.9m^3 1	
			1.1	0.04		
			656.04 m^3	0.024		
			0.038	4.5 10^{-6}		
			525	0.063		
				6.75 10^{-6}		
				0.003		
				0.0004		
				0.027		
		VOCs		0.646		
			140	4		
			210	2.54 0.94		
		20-25%	150	2.84	3.9m^3 1	
			2.2	0.06	3.9m^3 1	
			1312.08 m^3	0.024		

				1.35 10^{-5}		
				0.006		
				0.0008		
				0.054		
		VOCs		0.892		

4.7.2.2

4.7.2.3

MSDS 5.7-3~ 5.7-16

5.7-3 MSDS

					Caprolactam		
	$C_6H_{11}NO$		113.18		375		110
	68~70		270		0.67kPa 122		
	=1	1.05(70%)		(kJ/mol)			
	=1						
(vol%)	1.4% 8.0%						
	LD_{50} 1155mg/kg( ) 70g( )						
				UN		CAS NO.	105-60-2
					Z01		

5.7-4 - MSDS

	-				Diphenyl and diphenl ether		
							123.9
	12.3		258				
	=1			(kJ/mol)			
	=1						
(vol%)	0.6 121		6.2 160				
			500mg/24h				
				UN		CAS NO.	
					Z01		

5.7-5 MSDS

					m-Dihydroxybenzene		
	$C_6H_4(OH)_2$		110.11		608		127
	110.7		276.8				
	=1	1.28		(kJ/mol)	2847.8		
	=1	3.79					
(vol%)							
	6.1						

5.7-6 MSDS

5.7-7 MSDS

					formaldehyde		
	CH_2O		30.03		430		50 (37%)
	-92		-19.4		13.33kPa(-57.3)( )		
	=1	0.82		(kJ/mol)	2345		
	=1	1.07			137.2		
(vol%)	7.0 7.3						
	8.3						
	LD50 800mg/kg( ) 270mg/kg( ) LC50 590mg/m^3( )						
				UN	1198	CAS NO.	50-00-0
	83012				O53		8
	15						

5.7-8 MSDS

					Ammonium hydroxide Ammonia water
	NH4OH		35.05		
					1.59kPa(20)
	=1	0.91		(kJ/mol)	
	=1				--
(vol%)					
	8.2				
				UN	2672

5.7-9 MSDS

					Sodiun hydroxide Caustic soda		
	NaOH		40.01		-		-
	318.4		1390		0.13kPa(739)		
	=1	2.12		(kJ/mol)	-		
	=1	-			-		
(vol%)	-						
	-	MAC	2				
	8.2						
	LD50 LC50						
				UN	1823	CAS NO.	1310-73-2
	82001						-
	, ,						
	15 15						
	( )						

5.7-10 MSDS

					hydrogen		
	H_2		2.01		400		
	-259.2		-252.8		13.33 Kpa (-257.9)		
	=1	0.07(-252)		(kJ/mol)	241.0		
	=1	0.07			-240		
(vol%)	4.1 74.1						
	2.1						
	LD_{50} LC_{50}						
				UN	1049	CAS NO.	133-74-0
	21001				052		

5.7-11 MSDS

					Nitrogen		
	N_2		28.01				
	-209.8		-195.6		1026.42Kpa(-173)		

5.7-12 MSDS

					benzene		
	C_6H_6		78.11		560		-11
	5.5		80.1		13.33kpa 26.1		
	=1	0.88		(kJ/mol)	3264.4		
	=1	2.77			289.5		

[redacted]l%) 1.2-8.0

[redacted]

[redacted]

[redacted]

5.7-13 MSDS

					Methylbenzene		
	C_7H_8		92.14		535		4
	-94.4		110.6		4.89kPa/30		
	=1	0.87		(kJ/mol)	3905.0		
	=1	3.14			318.6		
(vol%)	1.2-7.0						
	LD_{50}5000mg/kg( ) LC_{50}12124mg/kg( ) 71.4g/m^3 3g/m^3 1 8 0.2 0.3g/m^3 8						
				UN	1294	CAS NO.	108-88-3
	32052				O52		

5.7-14 MSDS

					Xylene		
	C_8H_{10} $C_6H_4(CH_3)_2$		106.17		528		4
	13.3		138.4		1.16kPa/25		
	=1	0.86		(kJ/mol)			
	=1	3.66			343.1		
(vol%)	1.1-7.0						
	LD501364mg/kg( )						
				UN	1307	CAS NO.	106-42-3
	33535				O52		

5.7-15

					Natural gas dehydration		
	CH_4		16.05		537		-218
	-182.6		-160		53.32kPa(-168.8)		
	=1	0.45( )			890.8kJ/mol		
	=1	0.6			-82.25		
	5 15(vol%)						
	2.1						
	-						
				UN	1971	CAS NO.	74-82-8
	21007						
	( ) ( ) ( )						

5.7-16 MSDS

1			-OH 48 20 50% (7 : 3) 10
2	VOCs		VOC VOC

5.7.3

5.7.3.1

1 P

1 Q

B

Q

Q

C.1 Q

$Q=q_1/Q_1+ q_2/Q_2 \quad {}_n/Q_n$ C.1

$q_1 \quad q_2 \quad q_n$ t

$Q_1 \quad Q_2 \quad Q_n$ t

Q 1

7 Q 7 10 7 100 7

(HJ 169-2018) B

4.7-10

4.7-10

		CAS	t	t	q_1/Q_1	Q
		105-60-2	885	5	177	Q=180.847 0
		7664-41-7	0.49	5	0.08	
	-	92-52-4	1	2.5	0.4	
		108-46-3	6	5	1.2	
	37%	50-00-0	2.54 0.94	0.5	1.88	
	20-25%	1336-21-6	2.84	10	0.284	
		74-82-8	0.024	10	0.0024	
		71-43-2	6.75 10^{-6}	10	6.75 10^{-7}	
		108-88-3	0.003	10	0.0003	
		1330-20-7	0.0004	10	0.00004	
		108-46-3	4	5	0.8	7 # 97 10
		50-00-0	2.54 0.94	0.5	1.88	
	20-25%	1336-21-6	2.84	10	0.284	
		74-82-8	0.024	10	0.0024	
		71-43-2	1.35 10^{-5}	10	1.35 10^{-6}	
		108-88-3	0.006	10	0.0006	
		1330-20-7	0.0008	10	0.00008	

2 M

(HJ 169-2018)C.1

M M 20 10 M 20 5 3 M=5

M1 M2 M3 M4 M 4.7-11

4.7-11 M

				/	M

1 2

1

M				1	5

M=10

M3 M=5 M4

3 P

Q M 4.7-4

P P1 P2 P3 P4

4.7-12 P

Q	M			
	M1	M2	M3	M4
7	P1	P1	**P2**	P3
7 100	P1	P2	P3	P4
10	P2	P3	P4	**P4**

7 M3 7 10 M4

4.7-12 P2

P4

2 E

1

E1 E2 E3

4.7-13

4.7-13

E1	5km 5 500m 1000 200m 200
E2	5km 1 5 500m 500 1000 200m 100 200
E3	5km 1 500m 500 200m 100

500m

1000 E1

2

E1 E2

E3 4.7-14

4.7-15 4.7-16

4.7-14

	F1	F2	**F3**
S1	E1	E1	E2
S2	E1	E2	E3
S3	E1	E2	**E3**

4.7-15

F1	24h
F2	24h
F3	

IV

F3

4.7-16

S1	10km

S2	10km
S3	10km 1 2

10km

1 2 S3

F3 S3 4.7-14

E3

3

E1

E2 E3 4.7-17

4.7-18 4.7-19

G D

4.7-17

	G1	G2	**G3**
D1	E1	E1	E2
D2	E1	E2	**E3**
D3	E2	E2	E3

4.7-18

G1	
G2	

	a
G3	
a	

G3

4.7-19

D3	3 H S 1 $\times 10^{-6}$cm/s
D2	S 3 H 1.0m 1 $\times 10^{-6}$cm/s 3 H S 1.0×10^{-6}cm/s 1 $\times 10^{-4}$cm/s
D1	
Mb K	

3.1

3.47×10^{-5}cm/s D2

D2 G3

4.7-9 E3

3

4.7-20

4.7-20

				(m)		
	5km 1.6-1					
	500m					2223
	500m					2412
	5km					144072
	5km					131433
	E					E1
						24h /km

	1			6.72
	2			
	3			
	E			E3 F3 S3
	1			10^{-6} 10^{-4}cm/s
	E			E3 D2 G3

4

/ +

4.7-21

4.7-21

E	P			
	P1	P2	P3	P4
E1	+			
E2				
E3				
+				

P2 P4 E1

E3

5.7.3.2

HJ 169-2018 1

4.7-22

	+			

P2

E1 E3

5km

6km^2

1.6-1 1.6-1 1.6-2

5.7.4

HJ 169-2018

/

(CXLWAgYS(APA

5.7.4.2

4.7-24

4.7-24

	-			
	VOCs			

5.7.4.3

- 37%

20-25%

-

/

5.7.4.4

5.7-1

5.7-25

(HJ 169-2018) E 10

5.7-26

5.7-26

[redacted]	10mm 10min	1.00×10^{-4}/a 5.00×10^{-6}/a 5.00×10^{-6}/a

10% 50mm

1

800L 400kg

Q_G

$$Q_G = YC_d AP\sqrt{\frac{M\gamma}{RT_G}\left(\frac{2}{\gamma+1}\right)^{\frac{\gamma+1}{\gamma-1}}}$$

Q_G kg/s

P Pa

C_d 1.00 0.95

0.90 1.00

M kg/mol

R J/ mol K

T_G K

A m^2

Y Y=1.0

[redacted]

1.307

15S 5.7-27

5.7-27

	P Pa	C_d	M kg/mol	R J/ mol K	T_G K	A m^2
	1401325	1.00	17	8.3145	298	0.0000785

0.175kg/s 30min 315kg

2

$3.9m^3$ 0.10m

QL

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

Q_L kg/s

P Pa

P_0 Pa

kg/m ³

g 9.81m/s^2

h m

C_d 0.65

A m^2

30min 4.7-27

4.7-27

	P Pa	P_0 Pa	kg/m ³	h m	A m^2	Q_L kg/s
	101325	101325	815	1.76	0.0000785	0.244

2

HJ/T169-2018

37%

HJ/T169-2018 F.1.4.3

[redacted]

Q_3 kg/s

P Pa

R 8.314J/ mol·K

T_0 298K

M 0.03kg/mol

u m/s

r m

n 4.7-28

4.7-28

	n	
A B	0.2	3.846×10^{-3}
D	0.25	4.685×10^{-3}
E F	0.3	5.285×10^{-3}

HJ/T169-2018

F 1.5m/s 25 50%

4.7-29

4.7-29

	n		P Pa	u m/s	m^2	r m	min	Q_3 kg/s
F	0.3	5.285×10^{-3}	194	1.5	73.5	4.84	30	0.00032

0.00032kg/s 30min 439.2kg

0.576kg

5.7.6.2

1

HJ16-2018

3

1

HJ/T169-2018

F 1.5m/s 25

50% 2020 D 3.18m/s

31.64 65%

2

HJ/T169-2018 H CAS 7664-41-7 1

770mg/m³ 2 110mg/m³ CAS 50-00-0 1

69mg/m³ 2 17mg/m³

3

30min

4

HJ/T169-2018 G

AFTOX

5

F 1.5m/s 25 50%

5.7-30 **5.7-2**

5.7-3 5.7-4

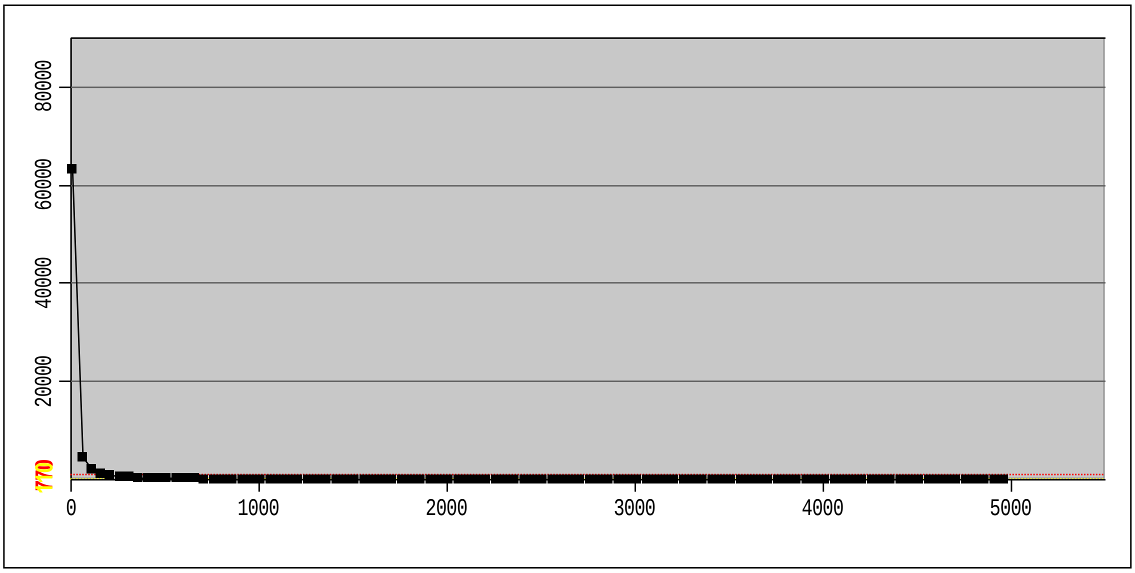
5.7-30

	(m)	min	(mg/m^3)
1	10	0.11	63133.00
2	60	0.67	4533.40
3	110	1.22	2161.50

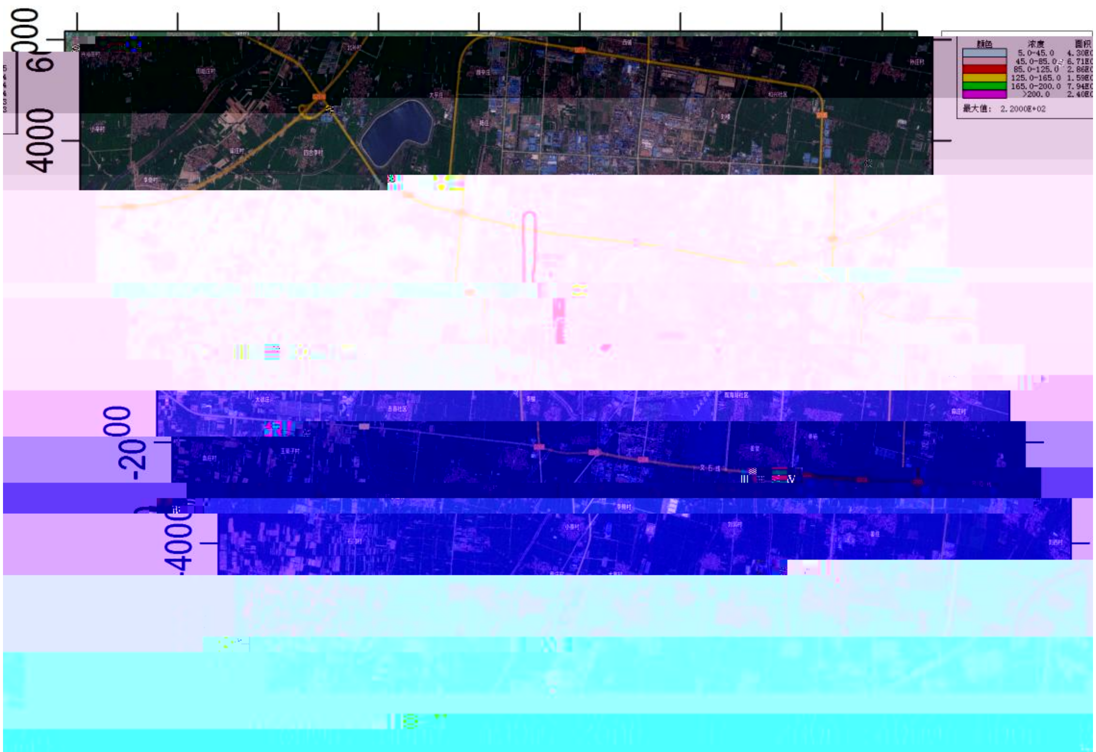
10	460	5.11	273.07
11	510	5.67	231.40
12	560	6.22	198.97
13	610	6.78	173.19
14	660	7.33	152.33
15	710	7.89	135.20
16	760	8.44	120.93
17	810	9.00	108.91
18	860	9.56	98.69
19	910	10.11	89.91
20	960	10.67	82.31
21	1010	11.22	75.69
22	1060	11.78	69.87
23	1110	12.33	64.73
24	1160	12.89	60.17
25	1210	13.44	56.10
26	1260	14.00	52.45
27	1310	14.56	49.17
28	1360	15.11	46.20
29	1410	15.67	43.25
30	1460	16.22	41.30
31	1510	16.78	39.49
32	1560	17.33	37.82
33	1610	17.89	36.27
34	1660	18.44	34.83
35	1710	19.00	33.48
36	1760	19.56	32.23
37	1810	20.11	31.05
38	1860	20.67	29.95
39	1910	21.22	28.91
40	1960	21.78	27.93
41	2010	22.33	27.01
42	2060	22.89	26.15
43	2110	23.44	25.33
44	2160	24.00	24.55
45	2210	24.56	23.81
46	2260	25.11	23.12
47	2310	25.67	22.45
48	2360	26.22	21.82
49	2410	26.78	21.22
50	2460	27.33	20.65
51	2510	27.89	20.11

52	2560	28.44	19.59
53	2610	29.00	19.09
54	2660	29.56	18.61
55	2710	34.11	18.16
56	2760	34.67	17.72
57	2810	35.22	17.30
58	2860	35.78	16.90
59	2910	36.33	16.51
60	2960	36.89	16.14
61	3010	37.44	15.79
62	3060	38.00	15.44
63	3110	38.56	15.11
64	3160	39.11	14.80
65	3210	39.67	14.49
66	3260	40.22	14.20
67	3310	40.78	13.91
68	3360	41.33	13.64
69	3410	41.89	13.37
[redacted]	3460	42.44	13.11
71	3510	43.00	12.86
72	3560	43.56	12.62
73	3610	44.11	12.39
74	3660	45.67	12.17
78	3710	46.22	11.95
76	3760	46.78	11.74
77	3810	47.33	11.53
78	3860	47.89	11.33
79	3910	48.44	11.14
80	3960	49.00	10.95

94	4660	57.78	8.82
95	4710	58.33	8.69
96	4760	58.89	8.57
97	4810	59.45	8.45
98	4860	60.00	8.34
99	4910	60.56	8.22
100	4960	61.11	8.11



5.7-2



5.7-3

5.7-4

110mg/m^3 760m 9min

770mg/m^3 230m 3min

2020 D 3.18m/s 31.64

65% 5.7-31

5.7-5 **5.7-6**

5.7-7

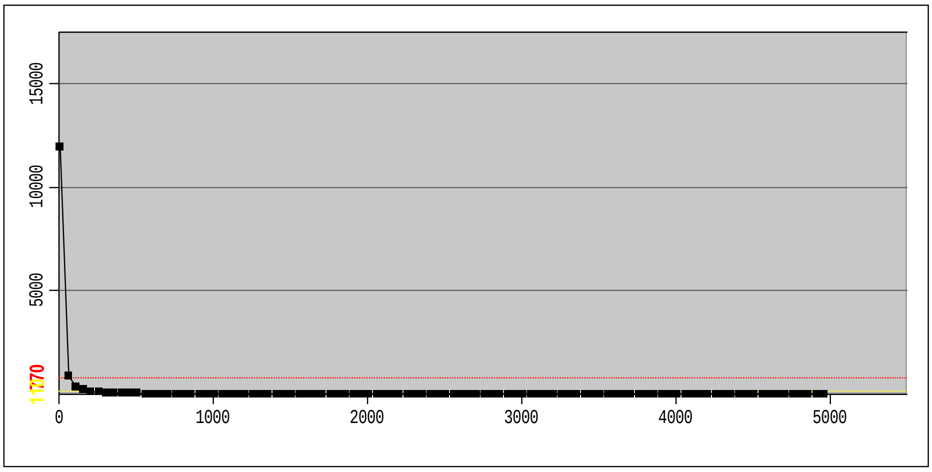
5.7-31 2020

	(m)	min	(mg/m^3)
1	10	0.05	11952.00
2	60	0.31	870.90
3	110	0.58	374.41
4	160	0.84	208.96
5	210	1.10	134.25
6	260	1.36	94.12
7	310	1.62	70.00

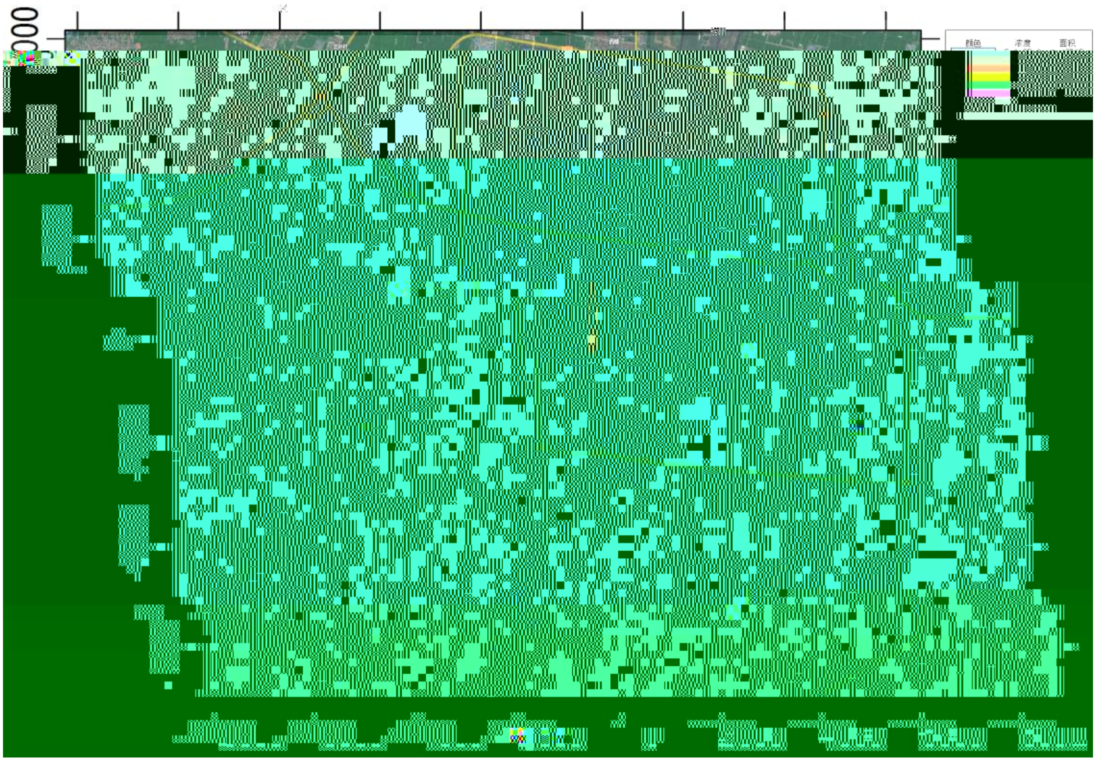
8	360	1.89	54.32
9	410	2.15	43.52
10	460	2.41	35.74
11	510	2.67	29.94
12	560	2.94	25.49
13	610	3.20	22.00
14	660	3.46	19.20
15	710	3.72	16.93
16	760	3.98	15.05
17	810	4.25	13.48
18	860	4.51	12.15
19	910	4.77	11.02
20	960	5.03	10.05
21	1010	5.29	9.20
22	1060	5.56	8.46
23	1110	5.82	7.77
24	1160	6.08	7.28
25	1210	6.34	6.84
26	1260	6.60	6.44
27	1310	6.87	6.08
28	1360	7.13	5.75
29	1410	7.39	5.46
30	1460	7.65	5.18
31	1510	7.91	4.93
32	1560	8.18	4.70
33	1610	8.44	4.48
34	1660	8.70	4.29
35	1710	8.96	4.10
36	1760	9.22	3.93
37	1810	9.49	3.77
38	1860	9.75	3.62
39	1910	10.01	3.48
40	1960	10.27	3.35
41	2010	10.54	3.23
42	2060	10.80	3.12
43	2110	11.06	3.01
44	2160	11.32	2.90
45	2210	11.58	2.81
46	2260	11.85	2.72
47	2310	12.11	2.63
48	2360	12.37	2.55
49	2410	12.63	2.47

50	2460	12.89	2.40
51	2510	13.16	2.33
52	2560	13.42	2.26
53	2610	13.68	2.20
54	2660	13.94	2.14

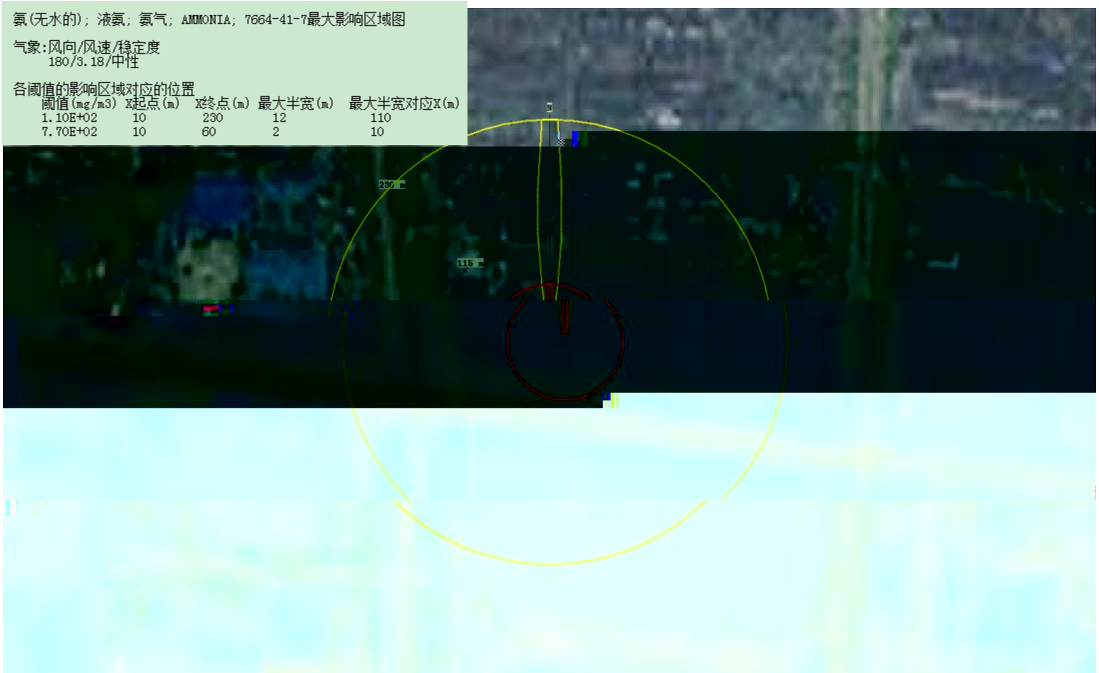
92	4560	23.90	0.96
93	4610	24.16	0.95
94	4660	24.42	0.93
95	4710	24.69	0.92
96	4760	24.95	0.90
97	4810	25.21	0.89
98	4860	25.47	0.88
99	4910	25.73	0.86
100	4960	26.00	0.85



5.7-5　2020



5.7-6　2020



5.7-7 2020

110mg/m^3 230m 2min

770mg/m^3 60m 1min

F 1.5m/s 25 50%

5.7-32 **5.7-8**

5.7-9 5.7-10

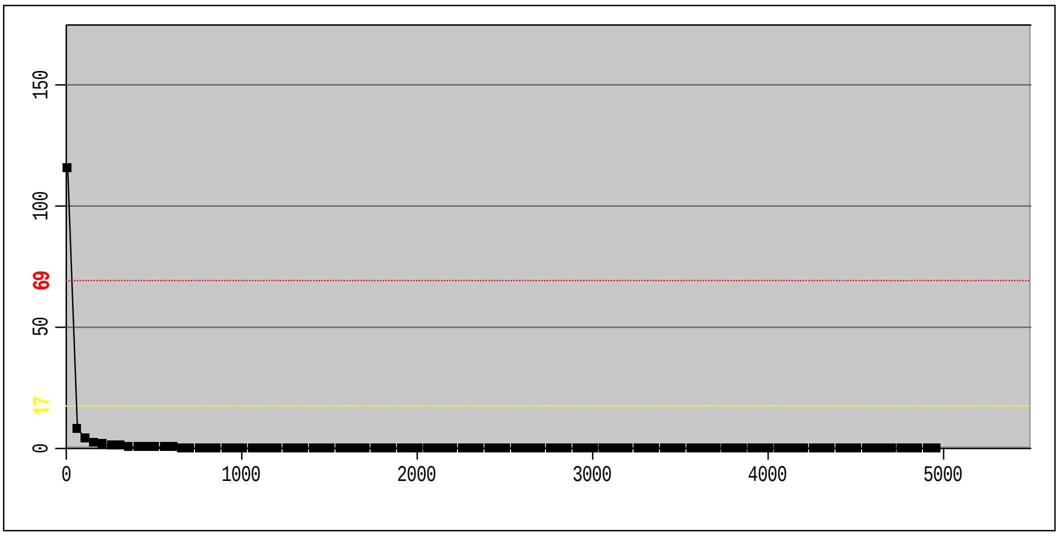
5.7-32

	(m)	min	(mg/m^3)
1	10	0.11	115.44
2	60	0.67	8.29
3	110	1.22	3.95
4	160	1.78	2.43
5	210	2.33	1.66
6	260	2.89	1.21
7	310	3.44	0.93

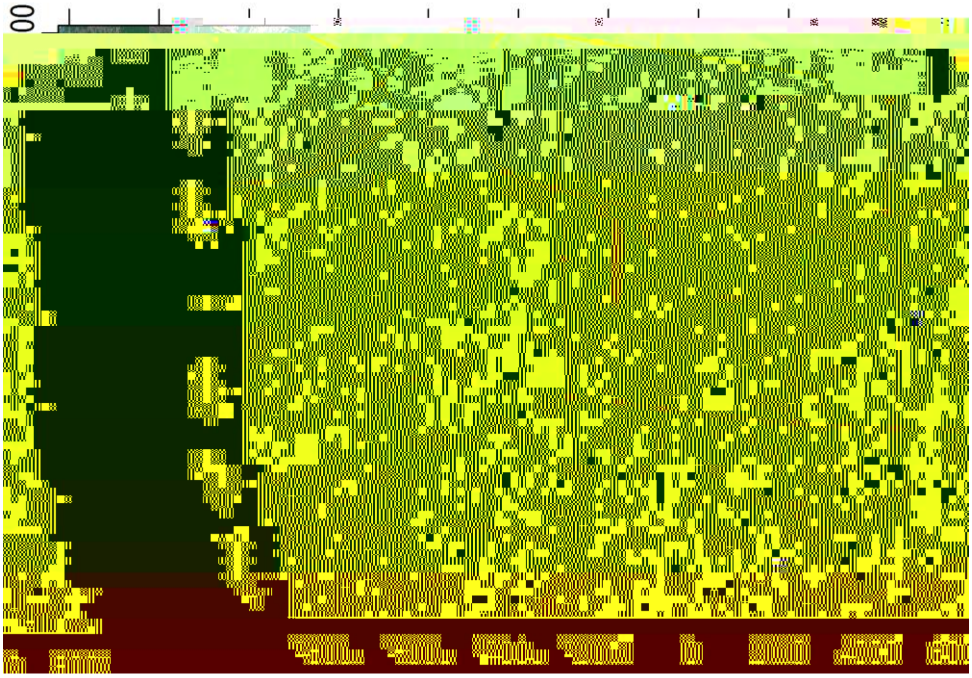
8	360	4.00	0.74
9	410	4.56	0.60
10	460	5.11	0.50
11	510	5.67	0.42
12	560	6.22	0.36
13	610	6.78	0.32
14	660	7.33	0.28
15	710	7.89	0.25
16	760	8.44	0.22
17	810	9.00	0.20
18	860	9.56	0.18
19	910	10.11	0.16
20	960	10.67	0.15
21	1010	11.22	0.14
22	1060	11.78	0.13
23	1110	12.33	0.12
24	1160	12.89	0.11
25	1210	13.44	0.10
26	1260	14.00	0.10
27	1310	14.56	0.09
28	1360	15.11	0.08
29	1410	15.67	0.08
30	1460	16.22	0.08
31	1510	16.78	0.07
32	1560	17.33	0.07
33	1610	17.89	0.07
34	1660	18.44	0.06
35	1710	19.00	0.06
36	1760	19.56	0.06
37	1810	20.11	0.06
38	1860	20.67	0.05
39	1910	21.22	0.05
40	1960	21.78	0.05
41	2010	22.33	0.05
42	2060	22.89	0.05
43	2110	23.44	0.05
44	2160	24.00	0.04
45	2210	24.56	0.04
46	2260	25.11	0.04
47	2310	25.67	0.04

50	2460	27.33	0.04
51	2510	27.89	0.04
52	2560	28.44	0.04
53	2610	29.00	0.03
54	2660	29.56	0.03
55	2710	34.11	0.03
56	2760	34.67	0.03
57	2810	35.22	0.03
58	2860	35.78	0.03
59	2910	36.33	0.03
60	2960	36.89	0.03
61	3010	37.44	0.03
62	3060	38.00	0.03
63	3110	38.56	0.03
64	3160	39.11	0.03
65	3210	39.67	0.03
66	3260	40.22	0.03
67	3310	40.78	0.03
68	3360	41.33	0.02
69	3410	41.89	0.02
70	3460	42.44	0.02
71	3510	43.00	0.02
72	3560	43.56	0.02
73	3610	44.11	0.02
74	3660	45.67	0.02
78	3710	46.22	0.02
76	3760	46.78	0.02
77	3810	47.33	0.02
78	3860	47.89	0.02
79	3910	48.44	0.02
80	3960	49.00	0.02
81	4010	49.56	0.02
82	4060	50.11	0.02
83	4110	50.67	0.02
84	4160	51.22	0.02
85	4210	51.78	0.02
86	4260	52.33	0.02
87	4310	52.89	0.02
88	4360	53.44	0.02
89	4410	54.00	0.02
90	4460	54.56	0.02
91	4510	55.11	0.02

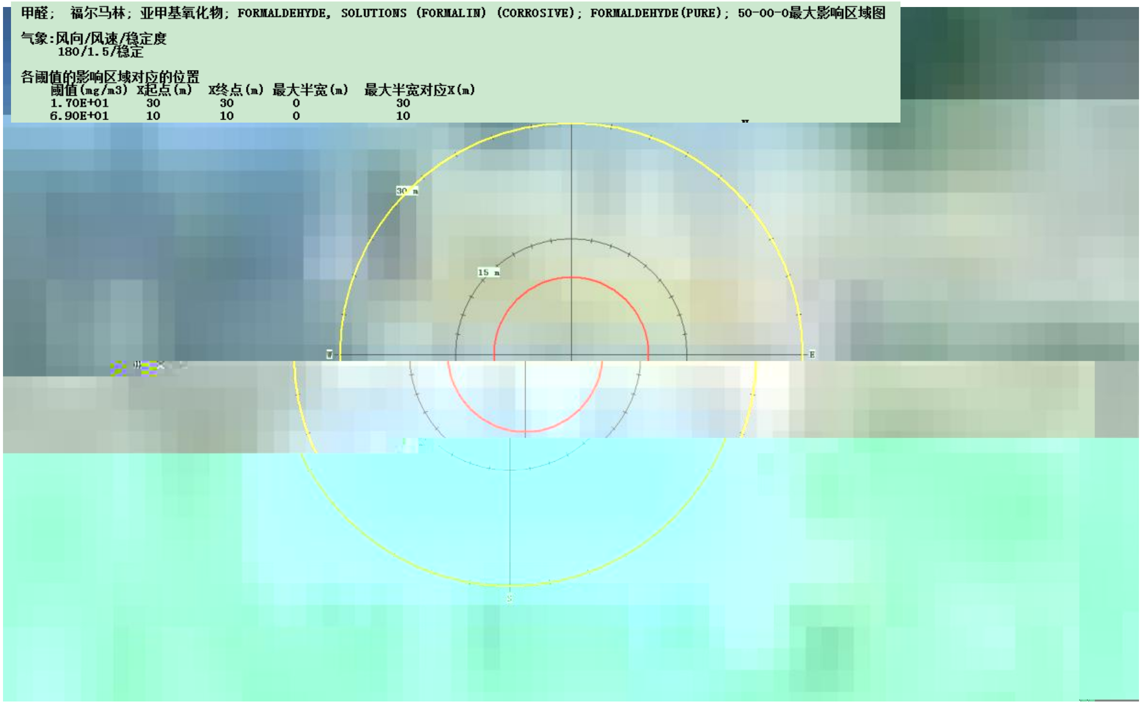
92	4560	55.67	0.02
93	4610	56.22	0.02
94	4660	57.78	0.02
95	4710	58.33	0.02
96	4760	58.89	0.02
97	4810	59.45	0.02
98	4860	60.00	0.02
99	4910	60.56	0.02
100	4960	61.11	0.01



5.7-8



5.7-9



5.7-10

17mg/m^3 30m 0.5min

69mg/m^3 10m 0.5min

5.7-33

5.7-33

	10%				
		/	25	/Mpa	1.4
		/kg	400	/mm	10
/ kg/s	0.175	/min	30	/kg	315
/m	1.2	/kg	315		4.0×10^{-5}/h
			/ mg/m^3	/m	/min

		-1	110	760	9
		-2	770	230	3
			/min	/min	/ mg/m^3
			0.11 5	9 25	63133.00

1

HJ2.3-2018 E E.2.1

$$C=(C_pQ_p+C_hQ_h)/(Q_p+Q_h)$$

C mg/L

C_p mg/L

Q_p m^3/s

C_h mg/L

Q_h m^3/s

2

3

5.7-34 2022 1 20-23

5.9-24

		m^3/h	mg/L	CODcr mg/L
1		1.857	2.5	190
2		0.06	0.025	23.3

4

2.42mg/L

pH　COD　SS

5.7-35

		/	25	/Mpa	0.101325
	CODcr	/kg	0.0023 CODcr　0.176	/mm	
/ kg/s	0.000077 CODcr　0.00588	/min	30	/kg	0.0023 CODcr　0.176
/m	0	/kg	/		1.00×10^{-4}/a

	CODcr		/m		/h	
			12680		745882	
			/h	/h	/h	/ mg/L
		/	/	/	/	/

3

5.7.7

5.7.7.1

1

1

2 RTO

2

1

2

3

4

5.7.7.2

1

1

2

3

2

2.1m ×2m ×2m 17.5m ×4.2m ×1.2m

19m 8m 5m

760m^3 300m^3

$$V = V_1+V_2+V_{max}-V_3$$

$V_1+V_2+V_{max}$

V_1

3.9m^3

V_2

25L/s 2

180m^3

V

V_3

88.2m^3

V =10qF

q mm q=qa/n qa

508.8mm n 60

8.48mm

F

3.6276hm^2

1.3168hm^2

V_5 307.62m^3 V_5 111.66m^3

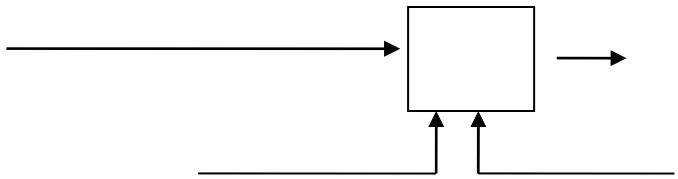
V =3.9+180-88.2+307.62=403.32m^3

760m^3

V =3.9+180-88.2+111.66=207.36m^3

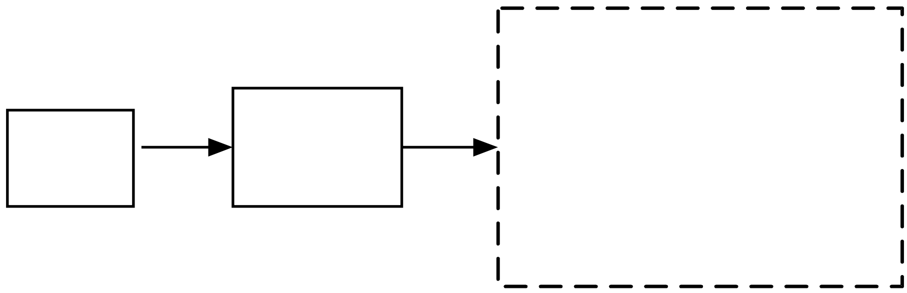
230m^3

5.7-11



5.7-11

5.7-12



5.7-12

5.7.7.3

-

VOCs

1

2 -

( )

3

4

5.7.7.4

1

2

3

4

5

6

7

8

5.7.7.5

1

2

3

5.7.7.6

1

2

3

4

5

5.7-33

5.7-33

		1	
		2	
1			
		5	

		230m^3
3		
4		
5		
6		760m^3 230m^3 /

5.7.8

4.7.8.1

2020 12 30

371526-2021-004-L

4.7.8.2

1

4.7-31

4.7-31

	200m 500m 1000m 1500m 2000m	SO_2 NO_X VOCs
	2	

pH BOD_5 COD SS

2 5.7-32

5.7-32

	pH BOD_5 COD SS

2

3

3

(5)

5.7.9

-

VOCs

5.7-33

5.7-33

						-		37%
		/t	885	0.49	1	6	2.54

5.7-33

6

6.1

6.1.1

26477.5t/a COD_{Cr}

5.31t/a 0.29t/a

6.1.2

6.1.2.1

1000m^3/d + + +

2.2-16

24664.5m^3/a 70.47m^3/d

1956m^3/d 2500m^3/d 544m^3/d

70.47m^3/d

GB/T31962-2015 1A

GB18918-2002 A

26477.5m^3/a COD_{Cr} 0.51t/a

0.007t/a

6.1.3

10 100000

0.01%

6.2

6.2.1

30m P1-1

30m P1-2

RTO 43 P1-3 P2-1 P2-2

6.2.2

20~25

RTO

VOCs RTO

99%

RTO VOCs

10a

95%

VOCs RTO

VOCs

RTO

GB16297-1996 2

DB37/2376-2019 1 <

> [2019]39

GB31572-2015

5

VOC

6 DB37/801.6-2018

1 GB14554-93

2

RTO

HJ1093-2020 6.1-1

6.1-1 RTO HJ1093

	HJ1093			
6.1		105%	105%	
		95% 98%	RTO 98% 90%	
		90%	RTO 95%	
		GB50051	43m 0.8m	
6.2			RTO	
6.3			DN200 RTO	
		760	RTO 760 750 850	
6.4				
6.5		25%	RTO	

6.2.3

500 45000

1.11%

6.2.3

6.4

6.4.1

-

6.4.2

6.4.2.1

6.4.2.2

2021

HW08 900-249-08

FDY

HW49 900-041-49

6.4.3

6.5

6.5-1

6.5-1 “ ”

		1 30m P1-1	GB16297-1996 2 DB37/2376-2013 2 VOCs 6 DB37/801.6-2018 1	
		30m P1-2	VOCs 6 DB37/801.6-2018 1	

		P1-3 P2-1 P2-2	6 DB37/801.6-2018 1 GB14554-93 2 41kg/h	
			GB16297-1996 2 GB14554-93 1 VOCs 6 DB37/801.6-2018 3 GB14554-1993 1	

GB/T31962-2015 1A

					1m L_{Aeq}(A) 65dB(A) 55dB(A)

6.6

7 环境影响经济损益分析

7.1 经济效益分析

7.1-1

表 7.1-1 工程主要经济指标一览表

			45000
		/	132750
		/	114272.08
		/	15000.83
		/	3750.21
		/	11250.62
		%	33.34
		%	25.49
			31592.78
			3.9
		%	31.97

25.49%

3.9 9.0 31.97%

7.2 环保投资及效益分析

7.2.1

772 45000 1.72%

7.2-1

表 7.2-1 工程环保投资估算表

1			2	20		
2			4	20		
			6	90		
			2	30		
			2	40		

		RTO	3	500		
			5	30		
3				20		
4				2		
5				20		
				772		

7.2.2

7.3 社会效益分析

54

2

1

2

a يج

b يج

c

d

ضي

a ضي يج

b

c

d

8.2

8.2-1

8.2-1

								t/a		
		VOCs		30m P1-1	2.8mg/m^3	GB16297-1996 2	0.672t/a	--	30m	
					VOCs 3.2 mg/m^3	DB37/2376-2013 2 6 DB37/801.6-2018 1	0.816t/a			
		VOCs		30m P1-2	3.5mg/m^3	GB16297-1996 2	0.882t/a	--	30m	
					VOCs 1.3mg/m^3	DB37/2376-2013 2 6 DB37/801.6-2018 1	0.326t/a	--		
		SO_2 NOx VOCs	+RTO		4.8 mg/m^3	GB16297-1996 2	1.2095t/a	--	43m	

	قمم			RTO 1 43 P1-3 P2-1 P2-2 3	VOCs 1.5 mg/m^3	DB37/2376-2013 2	VOCs 0.375t/a			
					1.55mg/m^3	GB31572-2015 5	0.3898t/a			
					0.18mg/m^3	ضر	0.0454t/a			
					0.09mg/m^3	6 DB37/801.6-2018 1	0.0227t/a			
					0.00002mg/m^3	GB14554-93 2	5.67 × 10^{-6}t/a			
					0.01mg/m^3		0.0025t/a			
					0.0013mg/m^3		0.0003t/a			
	VOCs	--	--	--	--	GB16297-1996 2 GB14554-1993 1 VOCs 6 DB37/801.6-2018 3	1.2481t/a VOCs 0.603t/a 0.433t/a 0.05t/a 0.025t/a 0.0063kg/a			VOCs SO_2 NOx

							0.003t/a 0.0003t/a 0.1942t/a VOCs 0.832t/a 0.866t/a 0.1t/a 0.05t/a 0.0126kg/a 0.006t/a 0.0006t/a			
		pH COD_{Cr} NH_3-N			COD_{Cr}50mg/L 5mg/L	GB/T31962-2015 1A	COD_{Cr}0.51t/a 0.26t/a	--		
		pH COD_{Cr} NH_3-N								
		pH COD_{Cr} NH_3-N SS								

pH COD_{Cr}
NH_3-N

8.3

8.3.1

شخ

HJ 1102-2020

HJ 1139-2020

( ) يج

8.3-1

8.3-1

	P1-1	VOCs		
	P1-2			
		VOCs		
	P1-3 P2-1 P2-2	VOCs		
		SO_2 NOx		
		VOCs		
		SO_2 NOx		
		pH COD_{Cr}	ضي	ضي
		BOD_5 SS		
		A		
ضر	ضر	pH		

ضي خي

8.3-2

8.3-2

	ضر			
حى			pH +	
			pH +	

8.3.2

8.3-2

8.3-2

		ققم	
1		JDC-109	1
2		GC-14C	1
3		GC-2010	1
4		AA7002	1
5	COD	JH-12	1
6		PHS-3C	1
7	COD ضي	--	2
8		HS5660A	1
9		2020	1
10		DIS30	1
11		--	1
12		--	1
13		--	

8.4

8.4.1

1

2

3 شي

8.4.2

1

[1996]470

2

DB37/T 2463-2014 ضي

3

DB37/T3535-2019

ضي تم

شي

ضي

ضي

تخ 0.5m

≥ 1.2m

100mm × 2mm

ضي ≥ 100mm ≤ 10mm

4 ضرشي

8.4.3

1 600mm 300mm

ضر 2m

2 يح يح

GB15562.1

[2003]95

3 **

**

4

8.5

8.5.1

8.5.1.1

8.5.1.2

SO_2 NO_X

COD NH_3-N

8.5.2

26477.5m^3/a COD_{Cr} 0.51t/a

0.007t/a COD_{Cr}

COD_{Cr}

ضي 1.787t/a 2018

45000t/a 6 / VOCs

2018 6 20 21

- / - HJ 734-2014

45000t/a 6 /

شخ C2821 شخ 2018 10

23 6 DB 37/

2801.6-2018 VOCs

HJ 38-2017

VOCs شخ

HJ 38-2017

6

DB 37/ 2801.6-2018

ضي

ضي ضي

VOCs ضي 45000t/a

6 / 20500t/a 6

VOCs 4.43t/a ضي 20000t/a

ضي VOCs 4.322t/a

VOCs

8.5-1

8.5-1

	VOCs t/a	t/a	t/a	kg/a	kg/a	kg/a	VOCs t/a

45000t/a 6 /	8.897	0.137	0.36	0.078	36.70	4.99	9.436
	0.15	—	—	—	—	—	0.15
	7.638	—	—	—	0.27	—	7.638
ضي	—	—	—	—	—	—	4.322
	16.685	0.137	0.36	0.078	36.97	4.99	21.546

VOCs 2.267t/a

0.1392t/a 0.0731t/a 0.01701kg/a 7.5kg/a

0.9kg/a SO_2 3.936t/a NOx 16.179t/a

5.1825t/a

VOCs

2.4877t/a

VOCs24.0337t/a SO_2 3.936t/a

NOx 16.179t/a 5.1825t/a

[2019]132 شخ

عجه

2

9

9.1

9.1.1

2019

29

		28% 90% 14% PM$_{2.5}$ 48ug/m^3 70% 2020 92%	RTO GB3838-2002 GB3096-2008 3

		316 -　　322 1 20m 2 VOCs 3 ( ) 4 5	SO_2　NOx RTO
		2 4	VOCs VOCs +RTO

		VOCs VOCs 6 VOCs 10 11		

1

+

2

		36575-2018 4 5	

9.1.3

2021 58

9.1-2

9.1-2

	2019	2019	

		VOCs SO_2 NO_X	

9.1.4

[redacted] 9.1-3

[redacted]		
[redacted]		
[redacted]		

9.1-3

9.1.5

2021 2023

9.1-4

9.1-4

[2021]3	

	2023 39600 4400 6% 5	
	2023 10% 150 150 2021 150 2023 90%	

2021

2023

9.1.6 [2021]65

9.1-5

	VOCs VOCs 0.3m/s	VOCs VOCs 0.3m/s
	VOCs VOCs VOCs 800mg/g	VOCs RTO

9.1.7 2021 2025

[2021]30

2021 2025

[2021]30 9.1-6

9.1-6 2021 2025

[2021]30

	2021 2025	
	8	
VOCs	VOCs VOCs VOCs 2025 30 20 15 20% 2021 VOCs 2025 2022 2025 80% LDAR LDAR LDAR O$_3$ LDAR 2023 LDAR	VOCs VOCs VOC RTO
	2023	

NOx		

2021 2025

[2021]30

9.2

9.2.1

2003-2020

9.2.2

2003-2020

9.2.3

100m

40m

9.2.4

9.2.5

9.2.6

1

2

3

2

4

9.3

10

10.1

10.1.1

4.5

45000 1

1

6 3 t 6 4.5 t

10.1.2

10.1.3

100m

40m

10.1.3

45000t/a 6 /

10.1.4.1

GB16297-1996 2

DB37/2376-2013

GB14554-93 2

VOCs

6

DB37/801.6-2018 1

GB31572-2015 5

GB16297-1996 2

GB16297-1996 2

GB14554-93

1 VOCs

6

DB37/801.6-2018 3

10.1.4.2

GB/T31962-2015 1A

10.1.4.3

10.1.4.4

GB12348-2008 3

10.1.5

10.1.5.1

P1-3

GB16297-1996 2

DB37/2376-2019 1 <

> [2019]39

GB31572-2015 5

6 VOCs

6

DB37/801.6-2018 1

GB14554-93 2

2

P2-1

P2-2

GB16297-1996 2

DB37/2376-2019 1

< >

[2019]39

GB31572-2015 5

6 VOCs

6 DB37/801.6-2018 1

GB14554-93 2

2

GB14554-93 1

GB16297-1996 2

VOCs

6 DB37/801.6-2018 3

10.1.5.2

26477.5m^3/a COD_{Cr}

0.78t/a 0.214t/a

26477.5 m^3/a COD_{Cr}

19.4mg/L 0.253mg/L 0.51t/a 0.23t/a

10.1.5.3

2

10.1.5.4

10.1.6

10.1.6.1

PM_{10} SO_2 NO_2 CO

GB3095-2012

PM10 $PM_{2.5}$ O_3

GB3095-2012 PM_{10} $PM_{2.5}$

(HJ2.2-2018) D TSP

GB3095-2012

p244

10.1.6.2

1# 2#

GB3838-2002

GB3838-2002

GB18918-2002 A

GB3838-2002

10.1.6.3

5

GB/T14848-2017

10.1.6.4

GB12348-2008 3

GB3096-2008 2

10.1.7

10.1.7.1

10.1.7.2

26477.5m^3/a

COD_{Cr} 0.78t/a 0.214t/a

26477.5 m^3/a COD_{Cr}

19.4mg/L 0.253mg/L 0.51t/a 0.23t/a

10.1.7.3

10.1.7.4

GB12348-2008 3

GB3096-2008 3

10.1.7.5

10.1.8

10.1.9

COD_{Cr}

COD_{Cr}

VOCs

VOCs 21.546t/a

VOCs 2.4877t/a VOCs

24.0337t/a

SO_2 3.936t/a NOx 16.179t/a 5.1825t/a

[2019]132

2

10.1.10

10.1.11

2022 1 4 2022 1 41

2022 5 15 5 25

2022 5 20 23

10.1.12

10.1.13

4.5

10.2

10.2.1

10.2-1

10.2-1

		30m P1-1	GB16297-1996 2 DB37/2376-2013 2 VOCs 6 DB37/801.6-2018 1
		30m P1-2	GB16297-1996 2 DB37/2376-2013 2 VOCs 6 DB37/801.6-2018 1

				GB12348-2008 3 4

10.2.2

1

2

3

4

5