



2013 1 25



**1**

	13861151363		0519-88931082	213100
				[2011]176
				C3140-
( )	10000		( )	400
( )	7890	( )	200	2.54%
( )			2013 10	
( )	( )		( )	
	1.1			
	1.2			
( / )	1600	( / )	/	
( · / )	6	( / )	/	
( / )	/			
	850t/a			
	600t/a			
	8m <sup>3</sup>			

**1.1**

		t			
1		3200			/
2		30			150kg/
3		160			400kg/
4		1			/
5		3			/

**1.2**

1			LG30-H		17
2			LGE30		10
3			NGL-135-11Q		1
4					1
5					2
6					2
7	40		40		1
8					1
9			V1.05/10		1
10			LD5-22.5A3D		4
					40

1

1

1983

2001 3

2007 8

2011 11

2011 12

2012 5

2								
			70 m <sup>2</sup>		1300			180
GE	ALSTOM	TOYO	BP			2012	6	
1.5			2					
	1992							
			2000				2004	
			2006					2006
				DNV		KR		ABS
	BV			RINA		GL		CCS
				PED	2007			
	2010			API				
	1998						ISO9002	1994
	2001			2002		BVQI		ISO9001
2000				2005	2008		2010	ISO9001
								2008
				2007	ISO14001		2010	2011
	OHSAS18001					SA8000		
7								
	1							
	320m							
							170m	

8

1.1-1



1.1-1

3

36596.3m<sup>2</sup>

110

2 t/a

10 /

2

2008

3000t/a

1

C3140-

7890

36596.3m<sup>2</sup>

10000m<sup>2</sup>

60

300d

8h/d

2

1

10000m<sup>2</sup>

3000t

3

1.3

**1.3**

	20000 t/a	0	10000 t/a
	100000 /	0	100000 /a
	0	3000 t/a	3000 t/a
*	0	0	3500 t/a

\*

10000t/a

4

5

1.4

**1.4**

		3000 t/a	10      10000m <sup>2</sup> 17 2      2
		400m <sup>2</sup>	
		400m <sup>2</sup>	
		50m <sup>2</sup>	
		/	
		/	
		1600 t/a	
		850t/a	
		620 kWh/a	110kV 1      10000KVA
		/	
		3000Nm <sup>3</sup> /h	27 3000 Nm <sup>3</sup> /h
		/	
		/	
		20m <sup>2</sup>	
		240m <sup>2</sup>	
		60m <sup>2</sup>	
		/	
		/	
		400m <sup>2</sup>	2006



**1**

36596.3m<sup>2</sup>

110 300 8h/

2 1500 / 10 2

1500 /

10 2

1.5

**1.5**

	1500t/a	10 /a 2 t/a
	1500t/a	10 /a 2 t/a
	2009.10.15	2010.01.05
	2009.10.22	2010.01.08
	/	2010.1
	/	2010.2
	/	
	/	
	/	2010.5.5

**2**

1.6

**1.6**

	10 /a 2 t/a	10 /a 2 t/a	41 19 1 7 3
		15030 m <sup>2</sup>	1530m <sup>2</sup> 13500m <sup>2</sup>

			760 m <sup>2</sup>	
			760 m <sup>2</sup>	
			280 m <sup>2</sup>	
			/	
			/	
			75m <sup>2</sup>	300m <sup>3</sup>
			/	
			/	
			/	
		300 KWh/a		1
			800KVA 1 500KVA	
		31770~44480Nm <sup>3</sup> /h		+ +
			1 15m	
		1680m <sup>3</sup> /a		
		/		1
		80 m <sup>2</sup>		
		310 m <sup>2</sup>		250 m <sup>2</sup> 60 m <sup>2</sup>
		/		
		/		

**3**

1.7

**1.7**

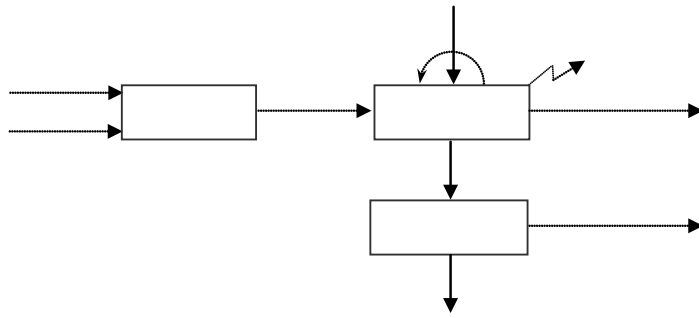
			/
1		CQ6132	11
2		Z535	1
3		M131	1
4		M131W	1
5		X5030	1
6		B6065	3
7	GB	G4240	1
8		SB-1B	1
9		10	1
10		V0.6/10	1
11		V-1.05/10	1
12		100	28
13		150	13
14			7
15			3

**4**

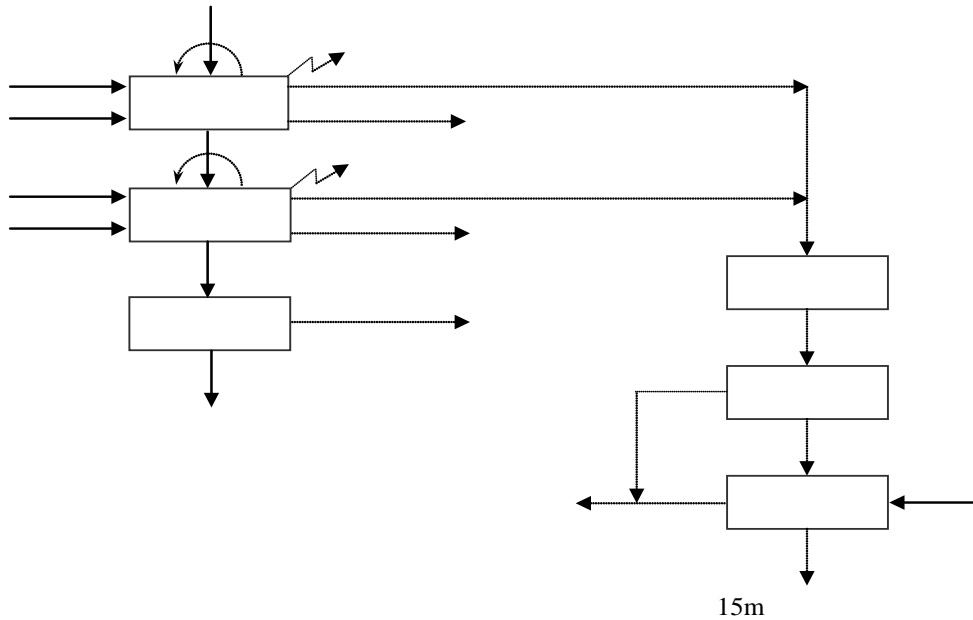
1500 /

10 / 2 /

1.1-2 1.1-3



1.1-2



1.1-3

1.8

1.8

10	/		300t/a	
			10 t/a	
			2 t/a	
			100 kwh/a	
			3000m <sup>3</sup> /a	
2	/		2.1 t/a	
			20 t/a	
			4 t/a	
			200 kwh/a	
			10000m <sup>3</sup> /a	

<b>5</b>				
1.9				
<b>1.9</b>		<b>t/a</b>		
			t/a	
		m <sup>3</sup> /a	0	
		COD	0	
		SS	0	
		NH <sub>3</sub> -N	0	
		TP	0	
			8.94	
			0	
1.10 1.11				
<b>1.10</b>				
			10	/
	2	/		
			11	1
	1	3	1	1
	1	GB	1	
	28		13	7
	3		1	170
10	/a	1384.5		
2	t/a			
		15m		
		GB16297-1996	2	
		GB12348-2008		
		2		

	8.94t/a	
	1	

**1.11**

10 /a 2 t/a		

1.12

**1.12**

“ ”

1		GB18597-2001 GB18599-2001
2		3500t/a

---

10 /

2 /

3500t

12600m<sup>2</sup>

[2013]3

2

(		)			
1		31°20'~31°54'	119°40'~120°12'		
	1245.8km <sup>2</sup>				
2.5km	600m				
2			2~5m		
		20~30%			
	8~10T/m <sup>2</sup>		7		
3					
			15.4°C		
38.9°C	-12.5°C	220	1016.2hPa		
79%	1106.7mm	1620.7mm	552.9mm		
	2019.4h	ESE	11.1%	SE	9.6%
	12.8%	WNW	12.8%	ESE	
14.8%		D			5
	2.6m/s		2.2~2.8m/s	10m	
	1~2	3.1m/s			1.7~1.9 m/s





5

6

( )

1

2007 3

15km

9km

88.93km<sup>2</sup>

26

4

8.5

5.3

14

4km

30km

5km

1.5km

2

		924		408	2011	
76.6		191			6.5	
		1995			11050	7757
	6597					
						295
	9.23	2011		112.05		100.84
	<b>3</b>					
		1	2	1	3	1
4848		316	9		45	945
	<b>4</b>					
			5000			
		6500m				

	<b>1</b>					
			2007~2020		2007~2010	
2011~2020						
	<b>2</b>					
		15km	8km		88.93km <sup>2</sup>	
	<b>3</b>					
		2010	85	2020	90	
			100			95%

	90%		56dB(A)		65dB(A)
	2010		2020		
	2010	95%	2020	98%	
	2010	90%	2020	100%	
	2010	90%	2020	100%	
<b>4</b>					
			232		
<b>5</b>					
				5.34 m <sup>3</sup> /d	
	2.0 m <sup>3</sup> /d		3.0 m <sup>3</sup> /d		2.0 m <sup>3</sup> /d
3.0 m <sup>3</sup> /d				0.5 m <sup>3</sup> /d	
				3.93 m <sup>3</sup> /d	
				1.5 m <sup>3</sup> /d	4.0 m <sup>3</sup> /d

DB32/1072-2007

0.35 m<sup>3</sup>/d      1.35 m<sup>3</sup>/d

0.60 m<sup>3</sup>/d      2.0 m<sup>3</sup>/d

232

0.75 m<sup>3</sup>/d      3.0 m<sup>3</sup>/d

110KV/10KV

35KV

110KV

110KV

220KV

220KV

962.5 m<sup>3</sup>/a

**6**



110m

500m

2km

2.1

(GB3095-1996)

(GB3838-2002) IV

(GB3096-2008) 2

**2.1 2km**

			m				
		W	500	110	88	207	
		S		242	79	277	
		SW		256	34	94	
		WNW		452	26	79	
		E		453	35	92	
		WNW		485	27	81	
		ENE	500~ 1000	508	61	192	
		NE		555	25	75	
		NNW		647	114	340	
		N		647	48	134	
		ESE		750	260	832	
		SSE		760	141	451	
		SW		802	105	299	
		WSW		821	50	150	
		S		831	58	142	
		SSE		846	75	225	
		WSW		915	43	111	
		NW		941	163	463	
		NE		967	160	470	
		SE		1000 ~ 2000	1002	240	768
		NNE	1015		33	88	
		WSW	1026		34	80	
		E	1035		76	243	
		W	1090		45	136	
		WSW	1127		90	270	
		E	1226		399	1277	
		N	1352		68	215	
		ENE	1365		300	1200	
		SSW	1408		87	241	
		WNW	1528	46	129		

		SE		1544	193	618		
		S		1551	227	726		
		NE		1592	26	68		
		N		1673	88	284		
		W		1676	28	63		
		WNW		1705	72	216		
		WNW		1757	62	157		
		SSW		1782	256	819		
		S		1844	320	1024		
		SW		1873	120	360		
		N		1956	51	151		
		NE		1965	244	722		
		NNE		1988	92	269		
		WSW		1997	73	204		
		N	4km					
	1m	/	/	/	/	/	/	2

3

( )			
2012 7			
GB3095-2012 1			
3.1			
<b>3.1</b>			
		$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1	$\text{SO}_2$	22	150
2	$\text{NO}_2$	19	80
3	$\text{PM}_{10}$	78	150
3.1 (GB3095-2012)			
1			
GB3838—2002 IV 2012			
6	$\text{NH}_3\text{-N}$ COD DO	V	
2012 6 $\text{NH}_3\text{-N}$ V			
2012 5			
3.2			
<b>3.2</b>			
		mg/L	mg/L
1	pH	7.1	6~9
2		7.4	6
3		0.13	0.05
4		2.4	1.0
3.2 GB3838-2002			
pH III			
(GB3096-2008) 2			
2 60dB(A) 50dB(A)			



4

<p><b>1</b></p> <p>SO<sub>2</sub> NO<sub>2</sub> TSP PM<sub>10</sub> (GB3095-2012) 1</p>			
<p>2</p> <p>2.0mg/m<sup>3</sup></p> <p>4.1</p> <p><b>4.1</b></p>			
		200µg/m <sup>3</sup>	GB3095-2012 1 2
TSP	24	300µg/m <sup>3</sup>	
		70µg/m <sup>3</sup>	
PM <sub>10</sub>	24	150µg/m <sup>3</sup>	
		60µg/m <sup>3</sup>	
SO <sub>2</sub>	24	150µg/m <sup>3</sup>	
	1	500µg/m <sup>3</sup>	
		40µg/m <sup>3</sup>	
NO <sub>2</sub>	24	80µg/m <sup>3</sup>	
	1	200µg/m <sup>3</sup>	
	1	2.0 mg/m <sup>3</sup>	
<p><b>2</b></p> <p>2003 3</p> <p>4.2</p> <p><b>4.2</b></p>			
			~
			—
			-
<p>(GB3838-2002)</p> <p>4.3</p>			

<b>4.3</b>				<b>mg/L</b>
			IV	
1	pH	6~9	6~9	(GB3838-2002) 1
2		6	10	
3	COD	20	30	
4	NH <sub>3</sub> -N	1.0	1.5	
5	TN	1.0	1.5	
6	TP	0.2	0.3	
7	BOD <sub>5</sub>	4	6	
8	DO	5	3	
9		0.5	0.5	
<b>3</b>				
			(GB3096-2008)	2
	60 dB(A)	50 dB(A)		
<b>4</b>				
			GBZ1-2010	
		4.4		
		<b>4.4</b>		
		h/d	dB A	
1		8	85	GBZ 1-2010
2		4	88	
3		2	91	
4		1	94	
5		1/2	97	
6		1/4	100	
7		1/8	103	
8		115 dB A		

1

(GB16297-1996)

GB14554-93

4.5

4.5

		mg/m <sup>3</sup>
		4.0
		1.5

2

3 t

CJ3082-1999 1

GB18918-2002 1 A CJ3082-1999

CJ343-2010

CJ343-2010 4.2 B

4.6

4.6

1	pH		6~9	6~9
2	COD	mg/L	500	50
3	BOD <sub>5</sub>	mg/L	350	10
4	SS	mg/L	400	10
5	N	mg/L	45	5 8
6	N	mg/L	70	15
7	P	mg/L	8	0.5
8		mg/L	100	1
9		mg/L	20	1
10			70	30

3				GB12523-2011
	1	70 dB(A)	55dB(A)	
2				GB12348-2008
	2	60 dB(A)	50 dB(A)	
		—	GBZ 2.2-2007	85
	dB(A)			
4				GB18597-2001
				(GB18599-2001)
	GB16889-2008			



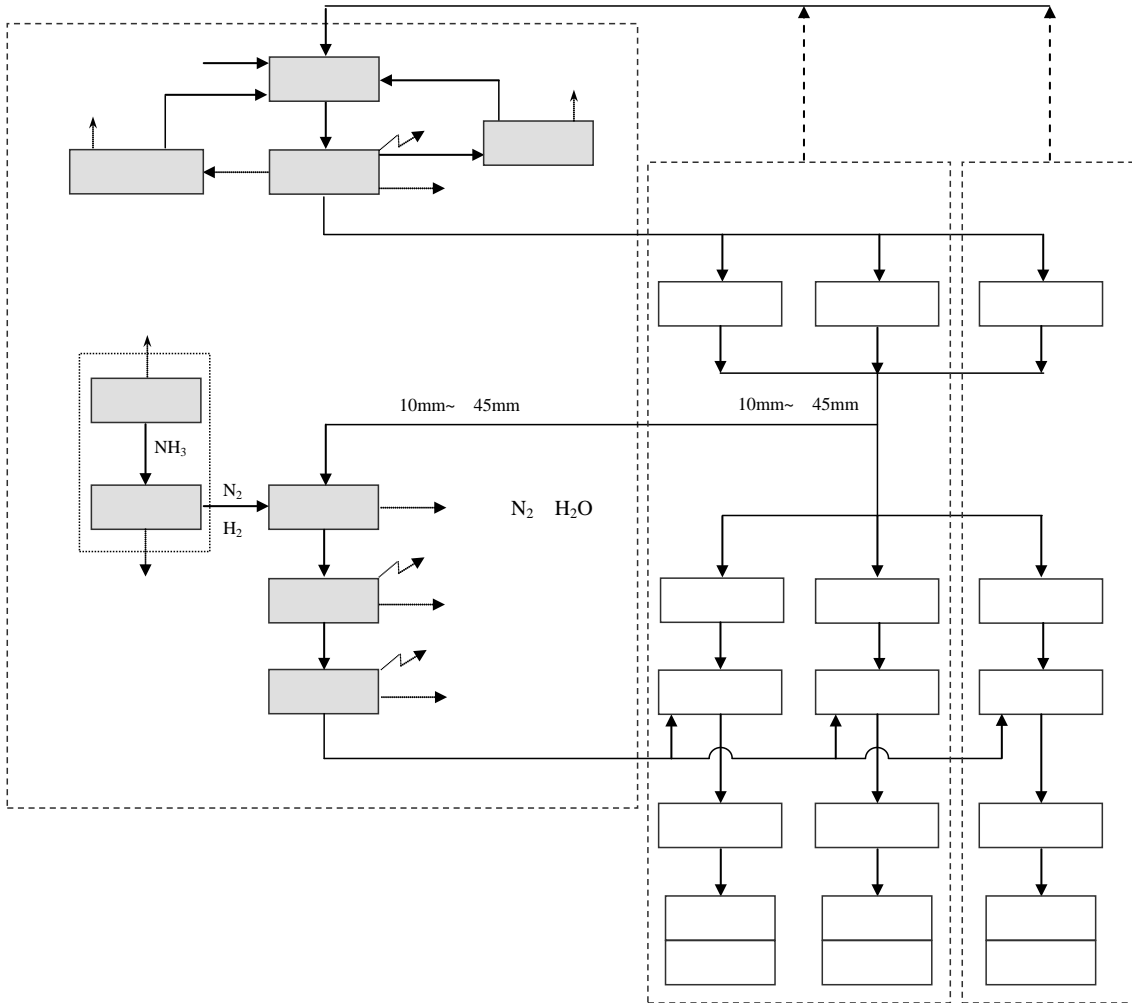
	◇	8.94t/a				
	◇		2550m <sup>3</sup> /a	COD	1.275t/a	SS 1.02t/a
		0.11475t/a	0.1785t/a	0.0204t/a	0.255t/a	
		2550m <sup>3</sup> /a	COD 0.1275t/a	SS 0.0255t/a	0.01275t/a	0.03825t/a
		0.001275t/a	0.00255t/a			
	◇	0				
	<b>3</b>					

5

( )

1

5.1



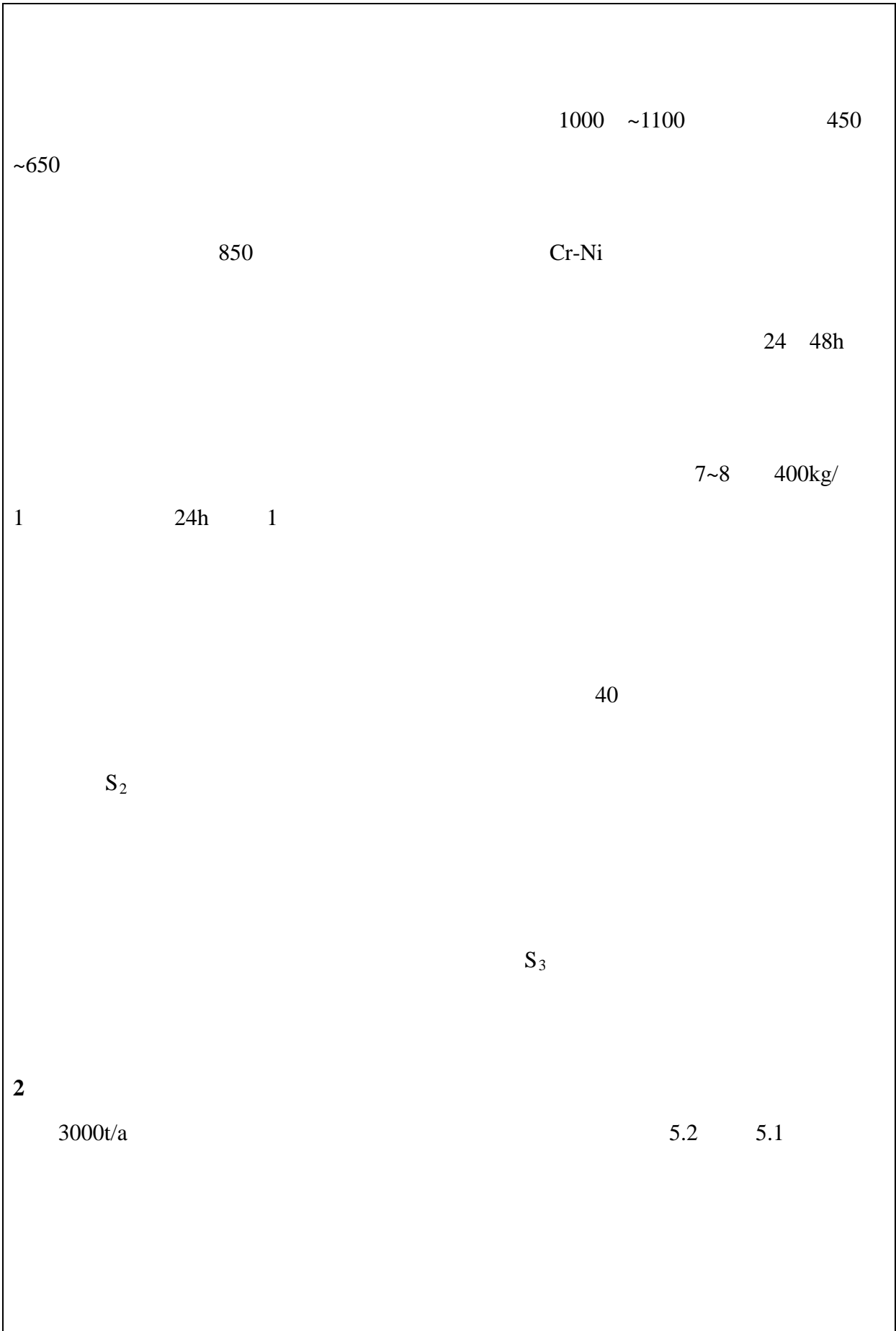
5.1

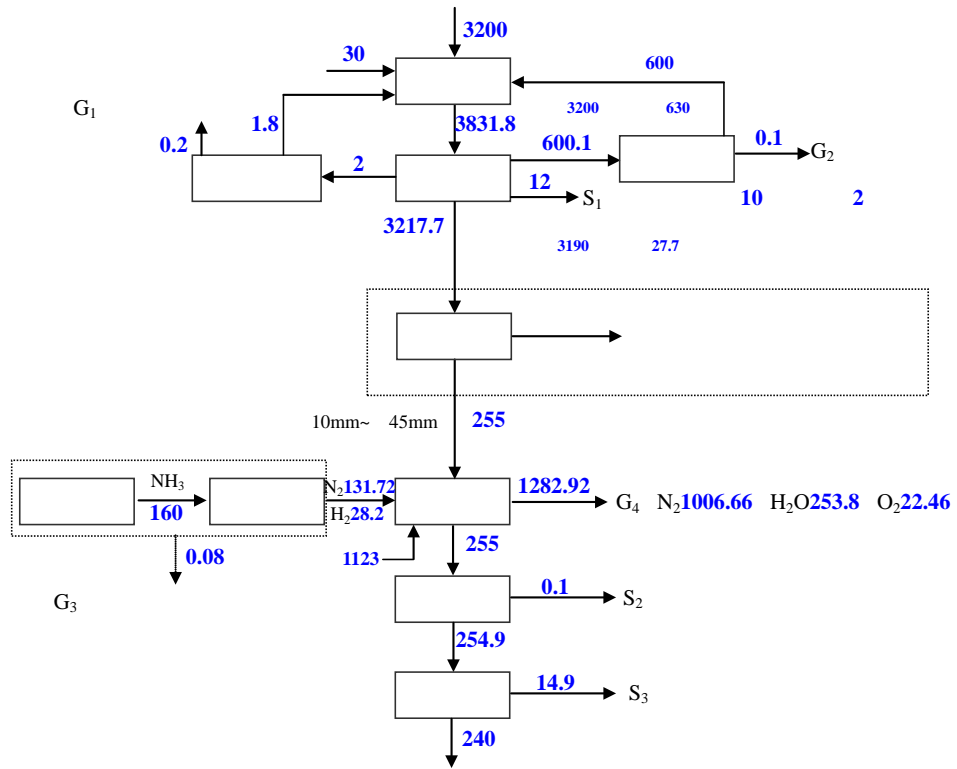
10mm~45mm

3000t/a

				10mm~ 45mm
		LG30-H	17	LGE30
10		1t		27
	3t			
	0.3t/			
10mm~ 45mm				
			2	2
		1000		
1000 ~1100				







5.2 3000t/a

( t/a)

5.1 3000t/a

	t/a		t/a			
1		3200	240	0	G <sub>1</sub> :0.2 G <sub>2</sub> :0.1 G <sub>3</sub> :0.08 G <sub>4</sub> :1282.92	S <sub>1</sub> :12 S <sub>2</sub> :0.1 S <sub>3</sub> :14.9
2		30				
3		160				
4		1123				
		4513	3202.7	0	1283.3	27
		4513	4513			

1

60

77

60L/d

0.85

850t/a

2

N<sub>2</sub>

H<sub>2</sub>

H<sub>2</sub>

•

2t/a  
90%

0.2 t/a

0.1t/a

•

160t 400 /

0.5‰

0.08 t/a

3

HW08

900-201-08

900-204-08

2t/a

HW49

900-041-49

2.3t/a

HW49

900-041-49

1t/a

HW49

900-041-49

0.2t/a

5.2

**5.2**

			t/a	
1		HW08 900-201-08	2	
		HW08 900-204-08		
2		HW49 900-041-49	1.3	
3			1	
4			0.2	
			4.5	

5.3

**5.3**

			t/a	
S <sub>1</sub>		/	12	
S <sub>2</sub>		/	0.1	
S <sub>3</sub>		/	14.9	
S <sub>4</sub>			1	
S <sub>5</sub>		/	3.19	
S <sub>6</sub>			0.01	
			31.2	

60

300

0.5kg

/d

9t/a

**4**

5.4

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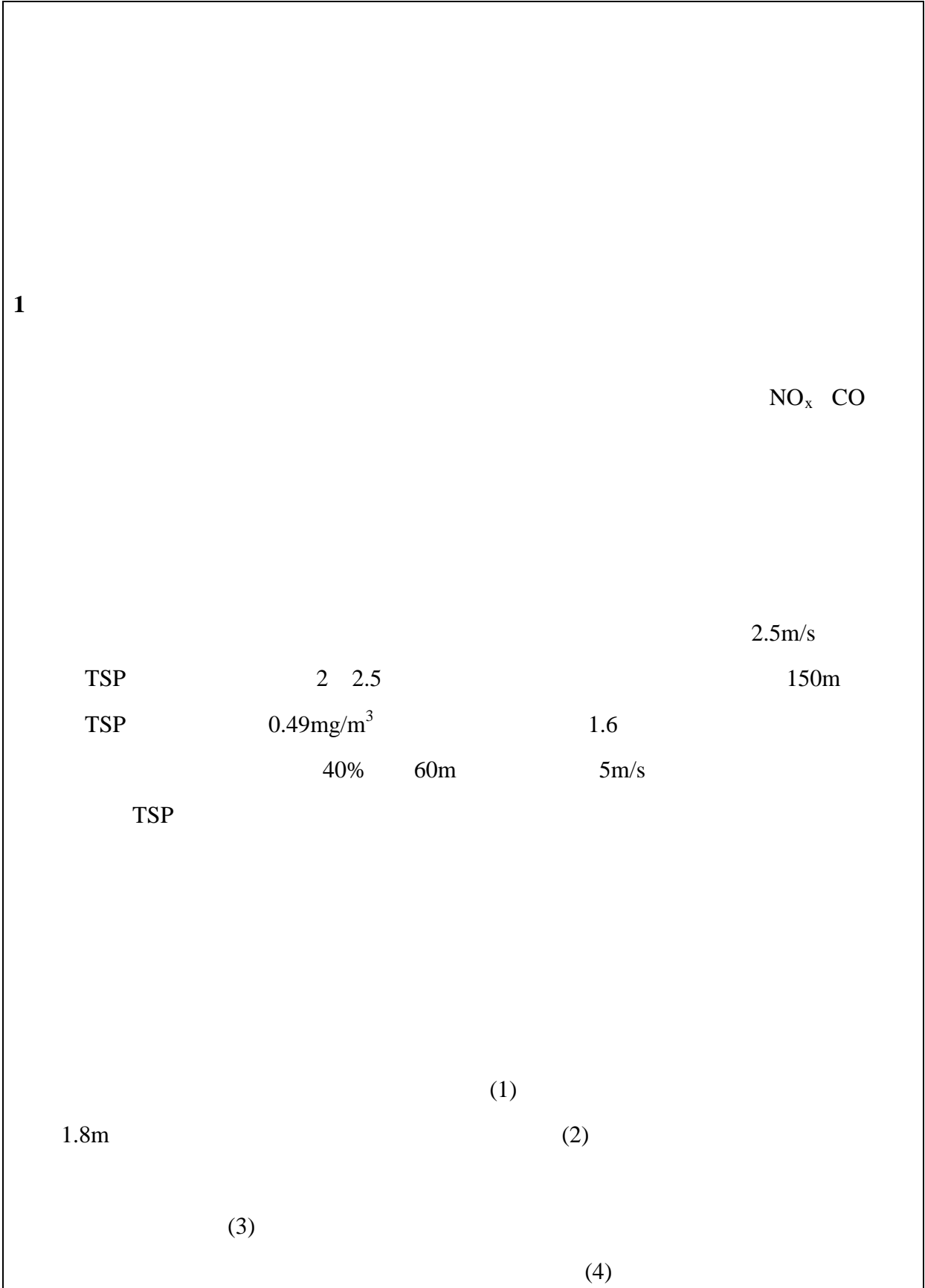
**5.4**

					dB(A)	
1		17			90	65
2		10			90	65
3		1			90	65
4		2			90	65
5	40	1			85	60
6		1			85	60
7		1			95	70
8		4			85	65

6

	( )		( )	( )	
			0.52 mg/m <sup>3</sup> 2t/a	0.052mg/m <sup>3</sup> 0.2t/a	
			0.08 t/a	0.08 t/a	
			850m <sup>3</sup> /a	850m <sup>3</sup> /a	
			COD 400mg/L 0.34t/a	COD 50mg/L 0.0425t/a	
			SS 300mg/L 0.255t/a	SS 10mg/L 0.0085t/a	
			NH <sub>3</sub> -N 30mg/L 0.0255t/a	NH <sub>3</sub> -N 5mg/L 0.00425t/a	
			TN 40mg/L 0.034t/a	TN 15mg/L 0.01275t/a	
			TP 3mg/L 0.00255t/a	TP 0.5mg/L 0.000425t/a	
			50mg/L 0.0425t/a	1mg/L 0.00085t/a	
			2t/a	4.5t/a	3.2t/a
			1t/a		
			0.2t/a		
			1.3t/a		
			12t/a	31.2t/a	
			0.1t/a		
			14.9t/a		
			1t/a		
			3.19 t/a		
			0.01t/a		
			9 t/a		
	85~95dB A				
	60dB A 50dB A				
	—				
	( )				

1



(5)

40km/h

(6)

2

3

7.1

7.1

dB(A)

	10m A		10m A
	82		82
	76		85
	84		84

7.1



GB12523-2011

7.2

7.2

dB(A)

	84~91	70	
	86~100		
	78~90	55	

10~15dB(A)/50m

(1)

GB12523-2011

(2)

(3)

(4)

(5)

(6)

4

(1)

(2)

(3)

5

1

1

1

4.0 m×3.0m×2.5m

850t/a

COD SS NH<sub>3</sub>-N

TP

3 t/d

1 t/d

7500t

2007 8 20

[2007]30 2012 6 20

985 t/a COD 92.5t/a SS 98.5t/a 49.5t/a

TP4.93t/a

2

H<sub>2</sub> H<sub>2</sub> N<sub>2</sub>  
2t/a  
90%

0.3t/a

10000m<sup>3</sup> 6m 20 /h  
0.052mg/m<sup>3</sup> (GB16297-1996)

0.08 t/a

GB14554-93

1m

1m

3

A10

4

5.4

— HJ2.4—2009

$$L_{A,r} = L_{A,r_0} - (A_{div} + A_{atm} + A_{bar} + A_{gr} + A_{misc})$$

$$L_A(r_0) \text{ --- } r_0 \text{ --- } A$$

$$A_{div} \text{ --- } A_{div} = 20 \lg r/r_0$$

$$A_{atm} \text{ --- } A_{atm} = \frac{\alpha(r-r_0)}{1000} \quad a$$

$$A_{bar} \text{ --- } 20\text{dB(A)}$$

25dB(A)

$$A_{gr} \text{ --- } A_{gr} = 4.8 - \left(\frac{2h_m}{r}\right) \left[17 + \left(\frac{300}{r}\right)\right] \quad h_m$$

m

$$A_{misc} \text{ ---}$$

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

$$L_{eqg} \text{ --- } \text{dB(A)}$$

$$L_{Ai} \text{ --- } i \quad A \quad \text{dB(A)}$$

$$T \text{ --- } s$$

$t_i$  — i T s

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

$L_{eqa}$  — dB(A)

$L_{eqb}$  — dB(A)

7.3

7.3

m

		dB(A)				
	11	90	84	169	126	34
	6	90	33	126	127	76
	6	90	120	173	90	31
	4	90	156	133	95	71
	1	90	39	156	171	43
	1	90	38	156	172	43
40	1	85	56	161	155	39
	1	85	51	167	160	33
	1	95	128	40	82	62
	4	85	82	150	128	50

7.4

7.4

dB(A)

	62.95	56.88	59.43	70.81
	67.39	55.75	55.68	60.14
	56.18	53.00	58.68	67.93
	52.13	53.52	56.45	58.97
	58.18	46.14	45.34	57.33
	58.40	46.14	45.29	57.33
40	50.04	40.86	41.19	53.18
	50.84	40.55	40.92	54.63
	52.86	62.96	56.72	59.15
	46.72	41.49	42.86	51.02
	<b>69.93</b>	<b>65.30</b>	<b>64.78</b>	<b>73.40</b>
	60			

<b>7.5</b>		<b>7.5 dB(A)</b>		
	36.20	30.13	32.68	44.06
	42.39	30.75	30.68	35.14
	31.18	28.00	33.68	42.93
	27.14	28.52	31.45	33.97
	33.18	21.14	20.34	32.33
	33.40	21.14	20.29	32.33
40	30.04	20.86	21.19	33.18
	30.85	20.56	20.92	34.63
	27.86	37.96	31.72	34.15
	32.72	27.49	28.86	37.02
	<b>45.09</b>	<b>40.36</b>	<b>39.77</b>	<b>48.25</b>
	60			

7.4 7.5

GB12348-2008

2

60dB A

50dB A

•

•

•

•

**5**

GB18083-2000

[2003]143

GB18083-2000

95~110dB

A

300m

95 dB A

200m

GB/T13201-91

$$\frac{Q_C}{C_M} = \frac{1}{A} (BL^C + 0.25r^2)^{0.50} L^D$$

Q<sub>C</sub>—— kg/h

C<sub>M</sub>—— mg/m<sup>3</sup>

L—— m

r—— m

A B C D GB/T13201-91 A=350 B 0.021 C 1.85

D 0.84

7.6

		0.0625 kg/h	2.6m/s	200m <sup>2</sup>	4.0 mg/m <sup>3</sup>	1.5m	50m
		0.0167 kg/h		3.2 m <sup>2</sup>	1.5 mg/m <sup>3</sup>	5.8m	50m

1m

50m

50m

GB/T13201-91

Q<sub>c</sub>/C<sub>m</sub>

100m

200m

6

7.7

7.7

NH <sub>3</sub>	17.03 -33.5 -79 KPa	-77.7 1 0.82 1 0.6 506.62 4.7	-54  LD <sub>50</sub> 350mg/kg LC <sub>50</sub> 1390mg/m <sup>3</sup> 4h
		15.7%~27.4%	

•

7.8

7.8

		V%		
		15.7%~27.4%	0.75	16000

$$H = \frac{R-L}{L}$$

R—

L—

H—

$$H_i = \frac{Q_i}{C_{0i}}$$

H<sub>i</sub>—

Q<sub>i</sub>— kg

C<sub>0i</sub>— mg/m<sup>3</sup>

GB18218-2009



$$q_1/Q_1 + q_2/Q_2 \dots + q_n/Q_n = 1$$

$$q_1 \quad q_2 \dots q_n \text{ — } t$$

$$Q_1 \quad Q_2 \dots Q_n \text{ — } t$$

GB18218-2009

1

10t

8

400kg/

3.2t

q/Q

0.32

1

HJ/T169-2004

7.9

**7.9**


7.9

7.10

**7.10**

			10min

•

3MPa

1780.5mm

800L

400kg

15mm

7.11

7.12

**7.11**

				m <sup>2</sup>	s	kg	
			3MPa	/	60	400	5 × 10 <sup>-6</sup> /a
			3MPa	0.0001766	900	144	3 × 10 <sup>-6</sup> /a

**7.12**

				kg/s	kg	m
		B	D E F	0.24	144	1.75
		B	D E F	6.67	400	

7.13

7.13

	mg/m <sup>3</sup>		
1	20		
2	25		
3	30	15min	
4	100	6h	
5	500	0.5 1h	
6	700	0.5h	
7	>1000		
8	>2000	30min	
9	>5000		

7.13

F

35m

1000m

F

10~250m

800m

F

15m

60m

F

80m

200m

0.01‰

•

•

•

•

CRT

7.14

7.14

	150m			2%
			5%	
			2%	15
		0.5%	1%	
			1 2 1%	
		I 0.5%	(1	
		1000)		

•

•

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- 

- 

**6**

0

8

	( )			
			+	(GB16297-1996)
		COD SS NH <sub>3</sub> -N TN TP		
		/	/	/
	GB12348-2008	2	60 dB(A)	50 dB(A)
	2.2-2007	85 dB(A)	—	GBZ
	/			







3

100%

HJ/T189-2006

4

GB3095-2012

NH<sub>3</sub>-N

NH<sub>3</sub>-N COD DO

GB3838-2002

GB3096-2008

2

5

+

(GB16297-1996)

GB14554-93

2

6

0

850m<sup>3</sup>/a COD 0.425t/a SS 0.34t/a

0.03825t/a 0.0595t/a 0.0068t/a 0.085t/a

850m<sup>3</sup>/a COD 0.0425t/a SS 0.0085t/a 0.00425t/a 0.01275t/a

0.000425t/a 0.00085t/a

0

7

3



1

2

A1 2012.10.10

A2 2011.4.1

A3 1500 / 2009.10.22

A4 10 2

2010.01.08

A5 10 2

2010.5.5

A6 3 t

2007.8.20

A7 1 t

2012.6.20

A8

A9

A10

A11

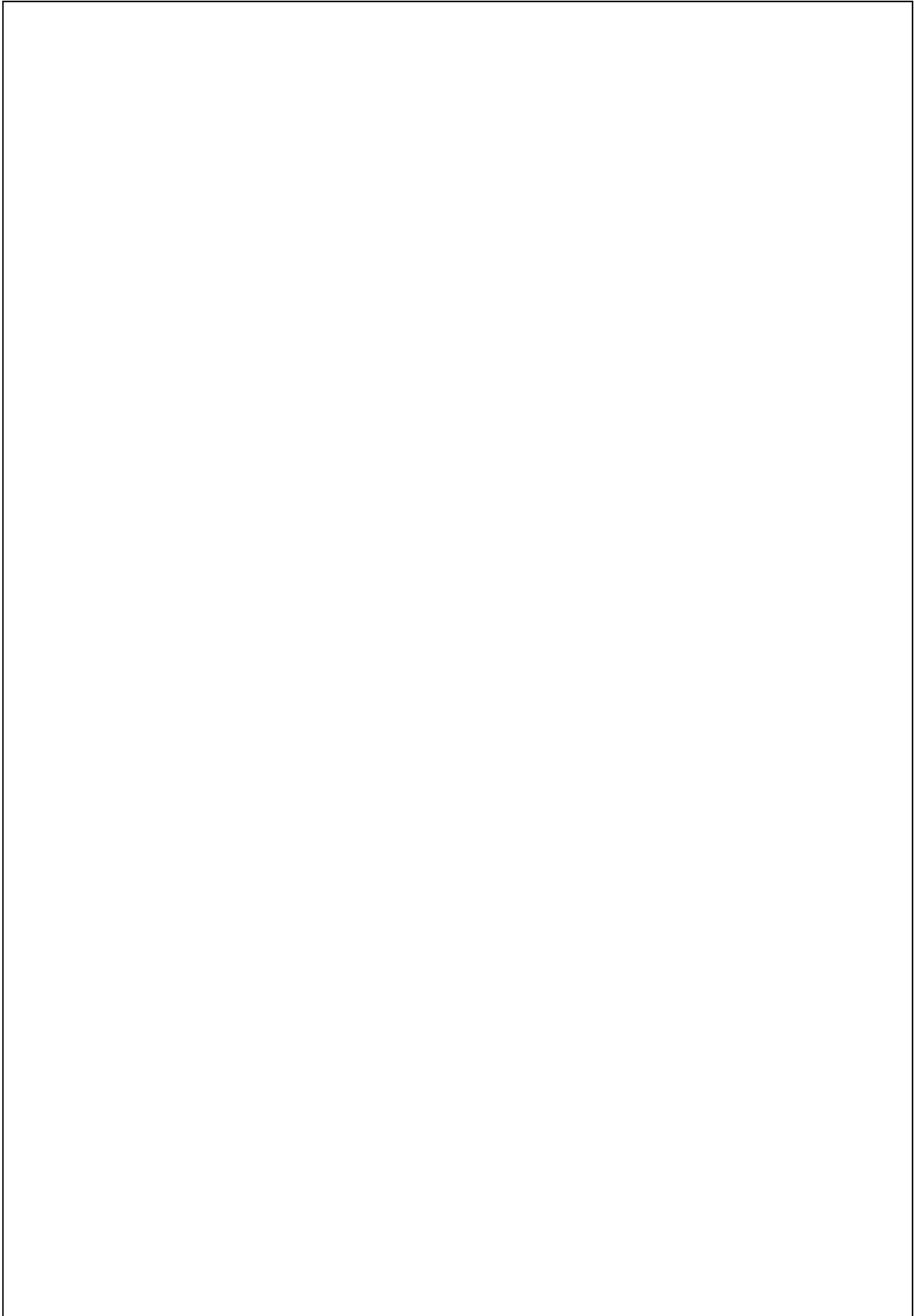
500m

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