2017 9 19

1. —— 30
2. ——
3. ——
4. ——
5. ——
6. ——
7. ——
8. ——

	13962558902		——		——
					[2017]43
	☑ ☐ ☐			C552	
	60000				
	1832.6		80		4.4%
			2019 1		
( ) ( ) 1-4 1-6					
/	807	/	/		
/	100	/	/		
/	/		/		
☐ ☑ 507t/a 2127.3t/a GB18918-2002 A					

( )

1

(

) , (

) ,

2017 5 5

[2017]43

1

2

1832.6

80 4.4%

16

60000m^2

330 7920

2019 1

3

3 500

50 : 3 3 6 2

1-1

1-1

PTA		50	0	50	/

4

1-2 1-3

1-2

		221.46m
		500t 3 206m 45m 8.8m 2.5m
		10t 3 3 6 2
		0.8 m^2

2

3

“

”

4

[2013]113

E 4

5

GB18918-2002 A

6

7

8 “ ”

“ ”

2018

≤5000mg/kg

2019

≤55000mg/kg 2017

“ ”

9

30°45' 31°14' 120°21' 120°54'

23

8 318 205

60

1

2 4 42.87

31.6 9 15

/

“

1990 ” 1992 160 50

10%

2-1

2-1

1			15.8
			39.0
			-6.6
2			2.5m/s
			32.1m/s
3			101.6kPa
4			1069mm
5			SE 17.2%
			NW 5.4%
			SE 10.8%
6			2200h

533.13km^2 160.6km^2 30.1

26 4.1-2

3507

0.7m 538 m^3 3658

0.8m 561 m^3

28km 50 80m 14.8km

57.6km 40.8 117 150m

-5.0 0

22.5 m^3 49%

11.6 m^3 23% 300m^3/s

4.1-3

150 190 –

300

1000 5000 / 5000

/ 150

30 50

60

1 / 1 3 /

3 /

1 /

200 8000 /

10 500 /

30 20

PTA

20

G1 G1

0.5 2017 3 6 12 3-1 3-2

NO_2 SO_2 PM_{10}

GB3095-2012

3-1 SO_2 NO_2

		mg/m^3	%		mg/m^3
G3	SO_2	0.017~0.054	0	/	0.5
	NO_2	0.02~0.05	0	/	0.2

3-2 PM_{10}

		mg/m^3	%		mg/m^3
G3	PM_{10}	0.109~0.129	0	/	0.15

GB3838-2002

20

W1 500 2017 3

9 3 11 pH

COD SS

3-3 mg/L pH

		pH		COD	SS		
W1		7.86	8	27.15	13.5	0.11	2
		6~9	10	30	60	1.5	0.1

20

Z2 Z3 Z4 Z2 Z3 Z4

2017 3 9 3 10

GB3096-2008 3

3-4

2¡ À

1

GB3095-2012

4-1

		mg/Nm^3	
SO_2		0.06	GB3095-2012
	24	0.15	
	1	0.50	
NO_2		0.04	
	24	0.08	
	1	0.20	
PM_{10}		0.07	
	24	0.15	
		2.0	

2

GB3838-2002 4-2

4-2 **mg/L pH**

	pH	COD				BOD_5			SS
	6~9	30	10	0.3	1.5	6	0.5	3	60

3

GB3096-2008 4a GB3096-2008 3

4-3

4-3 **dB(A)**

3		65	55
4	4a	70	55

1

SO_2 NO_X

GB16297-1996 2

4-4

	mg/m^3
	1.0
SO_2	0.40
NO_X	0.12
	4.0

N **kw**

2

pH COD DB32/1072-2007

3 DB32/1072-2007 BOD_5 SS

GB18918-2002 A

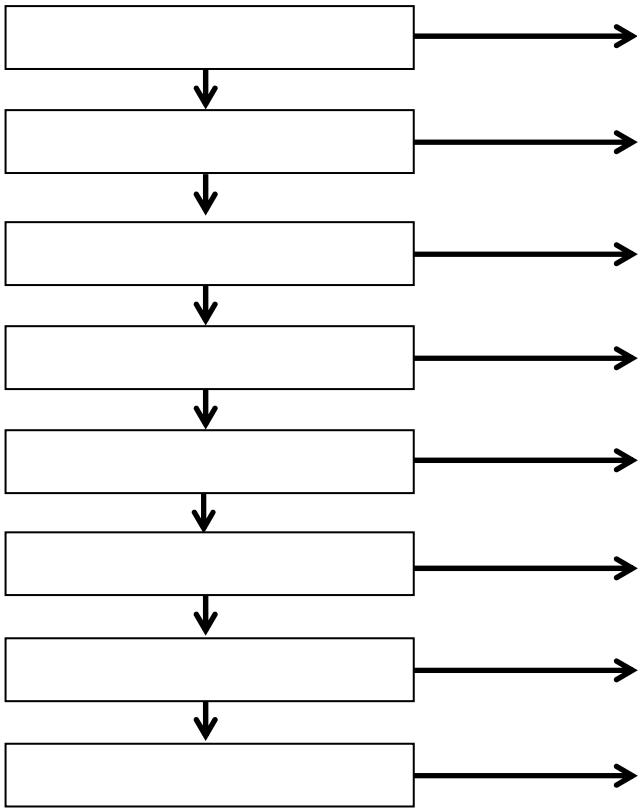
4-5

4-5

mg/L

	pH	COD	BOD_5	SS						
	6-9	500	300	400	35	8.0	40	200	4000	20
	6-9	60	10	10	5( )	0.5	15	30	—	1

5-1



5-1

:

→ → → →

→ → →

3 500 PTA

3 PTA

PTA

2

PTA → → + →

1

2

0.5 10 150L/ ·

1.5m^3/d 80%

1.2m^3/d 219m^3

SS

3

4

0.5kg/ ·d

5kg/d 912.5Kg

5

1.

PTA PTA

NOx 1340.44g/100km SO_2

97.82g/100km 134.04g/100km

500m/ 20t +

75 / 5-1

5-1

		SO_2	NO_X	
	kg/d	0.037	0.503	0.050
	t/a	0.01	0.166	0.016

2.

JTS149-1-2007

450t/a 5000mg/L 1973

1978

5-2

5-2

t	/	t/d·	t/a	mg/L	COD mg/L
500 PTA	3	0.27	450	5000	400
	/	/	450	/	/

190L/d 152L/d

500 6

2127.3t/a

3L/m^2·

577.5m^2 7700m^2 100

173.25m^3/a 2310m^3/a

16 120L/d 1.92t/d

0.8 1.536t/d COD≤400mg/L SS≤200mg/L

≤35mg/L ≤4mg/L

$$Q=\psi\cdot q\cdot F$$

Q L/s ψ F hm^2 q $L/s\cdot hm^2$

q 167×i

q—— $L/s\cdot hm^2$

i—— mm/min

P—— 1

t—— 15min

3.7-5

$182.29L/s\cdot hm^2$ 196.87L/s

10 15 $1771.83m^3/a$ SS COD

5-3

5-3

	m3/a		mg/L	t/a			mg/L	t/a		t/a
	507	COD	400	0.203			/	2634.3		2634.3 COD 0.158 SS 0.026 NH_3-N 0.013 TP 0.0013
		SS	300	0.152		COD	400	1.053		
			35	0.018		SS	150	0.395		
			4	0.002			25	0.066		
	2127.3	COD	400	0.851			4	0.0265		
		SS	300	0.638						
			35	0.075						
			4	0.0085						
	173.25	COD	200	0.034		—	100	0.017		
		SS	200	0.034		—	100	0.017		
	1771.83	COD	200	0.354		COD	100	0.177		
		SS	200	0.354		SS	100	0.177		
	472.3		5000	2.362			15	0.0071		
		COD	400	0.189		COD	50	0.024		

16 1.0kg/(·)

5.28t/a

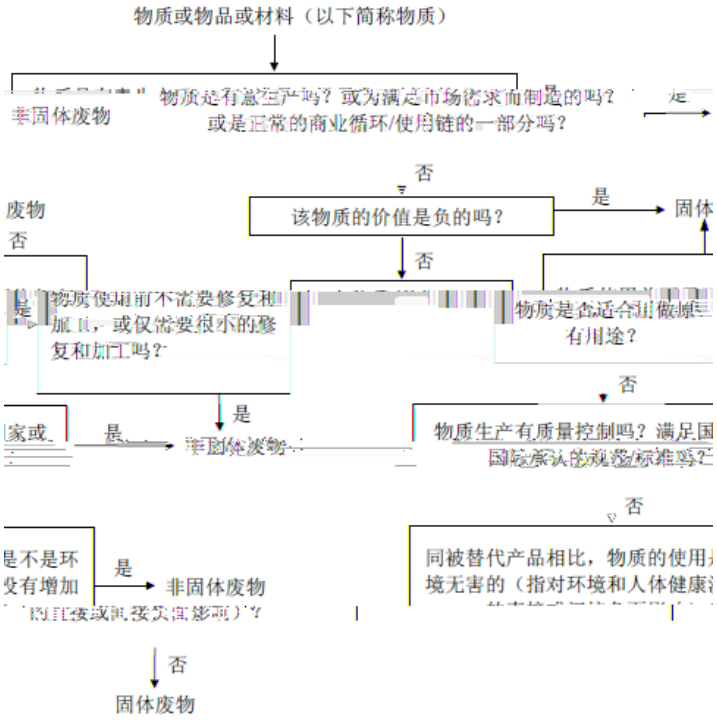
1.5kg/(·)

2.25t/a

10kg 3.0t/a

1

5



5-2

5-5

5-5

					/			
1					5.28	√		
2					2.25	√		
3					3.0	√		

5-6

5-6

									/
1						-	-	-	5.28
2						-	-	-	2.25
3						-	-	-	3.0
									10.53

4

5-7

5-7

				(dB)	
1		10t-16m		85	3
2		20t		75 80	4
3		500	/	75 90	/

	( )								
		CO	0.101t/a	0.101t/a					
		SO_2	0.012 t/a	0.012 t/a					
		NO_X	0.166 t/a	0.166 t/a	—	—	—		
			0.016 t/a	0.016 t/a					
			507	2634.3					
		COD	400mg/L 0.203t/a	400 mg/ 1.053t/a					
		SS	300mg/L 0.152t/a	40 mg/L 0.105 t/a		——	10		
			35mg/L 0.018t/a	25 mg/L 0.066 t/a					
			4mg/L 0.002t/a	1.5 mg/L 0.004 t/a					
			2127.3						
		COD	400 mg/L 0.851t/a						
		SS	300 mg/L 0.638 t/a						
			35 mg/L 0.075 t/a						
			4 mg/L 0.0085 t/a						
			——	——	——		——		
			5.28	5.28					
			2.25	2.25					
			3.0	3.0					
	1 2 3 4 5 6								

1.

2.

3.

100m

4.

5.

SS

6.

[2013]113

4

1.

SO_2 NO_X

COD 23.1~23.5mg/L COD 0.11mg/L COD 22.3mg/L COD 0.11mg/L COD 22.2~22.3mg/L COD 0.01mg/L

3.

75-95dB(A) (HJ2.4-2009)

(L_{eqg})

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

L_{eqg}— dB(A)

L_{Ai}—i A dB(A)

T— s

t_i—i T s

(Leq)

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

L_{eqg}— dB(A)

L_{eqb}— dB(A)

a. (A_{div}) (A_{atm}) (A_{gr}) (A_{bar}) (A_{misc}) r_0

(63Hz 8KHz 8) $L_p(r_0)$ (r_0) (r) 8

$$L_p\ r\ = L_p\ r_0\ - \ A_{div} + A_{atm} + A_{gr} + A_{misc}$$

b. A $L_A(r)$ 8

A ($L_A(r)$)

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

L_{Pi} (r)— (r) *i* dB

Δ*Li*— *i* A dB

7-4 **dB(A)**

		Z2	**Z3**	**Z4**
		36.13	39.77	40.85
		52.8	50.9	51.1
		52.89	51.22	51.49
		70	65	65
		36.13	39.77	40.85
		46.9	45.2	45.5
		47.24	46.29	46.78
		55	55	55

1.

2. Z2 Z3 Z4

45.28dB(A)

(GB12348-2008)

4.

7-5

		t/a				
		5.28		——	——	
		2.25		——	——	
		3.0		——	——	
		10.53				

5.

PTA

100

10 293 0.79%

1

2

3

4 VTS VTS

“

AIS ”

5

6

7

8

9

	( )			
		SO_2 NO_X		GB16297-1996
		COD NH_3-N SS TP TN		
		COD		
	/	/	/	/
			/	
	/			

1

2

3

4

5

6

“ ” 780

4.1%

7-8 “ ”

	360		750	330		
				/	/	
		COD SS			/	
	/	/		/	5	
		COD SS			0	
		COD		/		
				GB12348-2008		
					/	
				/		
	50m				/	

1

500t 3 PTA PTA 50
PTA
1832.6 80 16
330 7920

2

20
G1 G1
0.5 2017 3 6 12 3-1 3-2
NO_2 SO_2 PM_{10}
GB3095-2012

GB3838-2002
20
W1 500 2016 2
16 pH COD
SS

20
Z3 Z4

3

507t/a 2127.3t/a

3

GB12348-2008

4

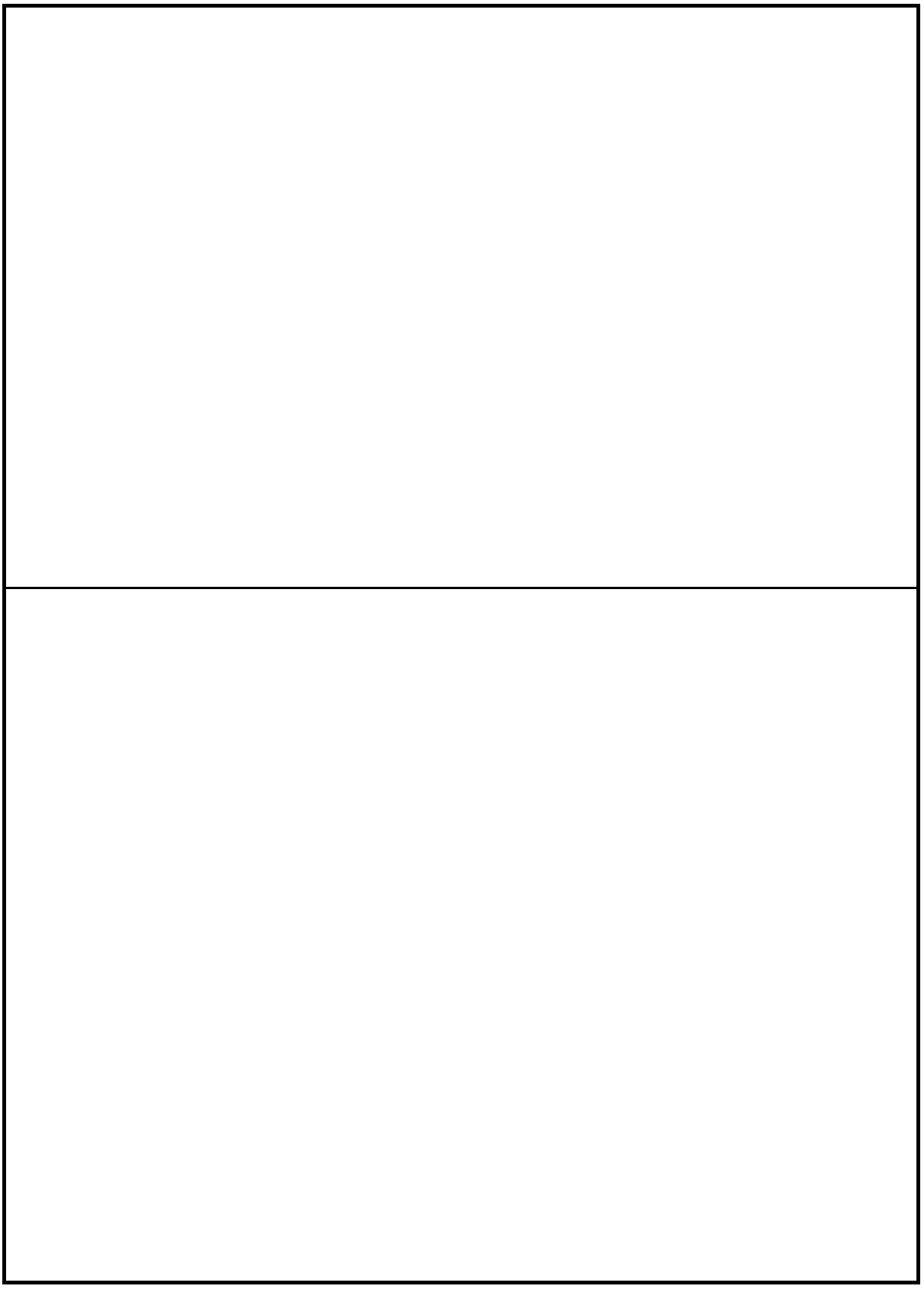
5

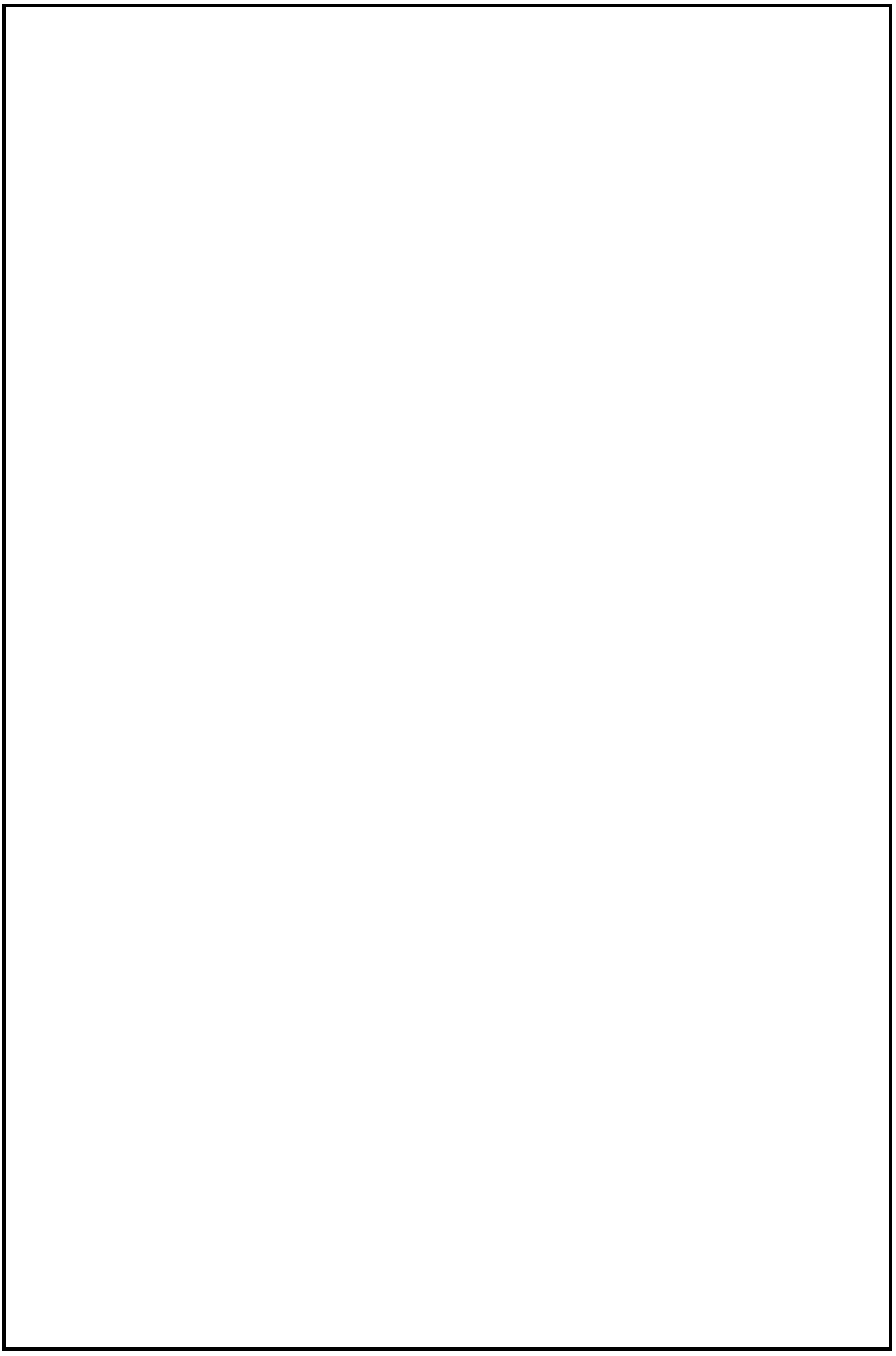
1

“ ”

2

3





1

2

10

1

2

3

4

1-2

1.

2.

3.

4.

5.

6.

7.