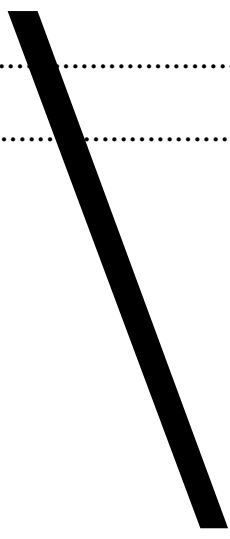


1.1	.....	1
1.2	ŒÍ ž .....	1
1.2.1	.....	2
1.2.2	.....	2
1.2.3	.....	3
1.2.4	.....	3
1.2.5	.....	4
1.3	.....	4
1.3.1	.....	4
1.3.2	.....	5
2.1	õ .....	7
2/1.1	.....	7
2.1.2	..... %6C	



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3.2.2

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7.4.3	.....	102
7.5	.....	103





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7		“	”
[2016]65	2016	11	24
8		“	”
[2017]30	2017	2	22
9			
[2016]1162	2016	6	

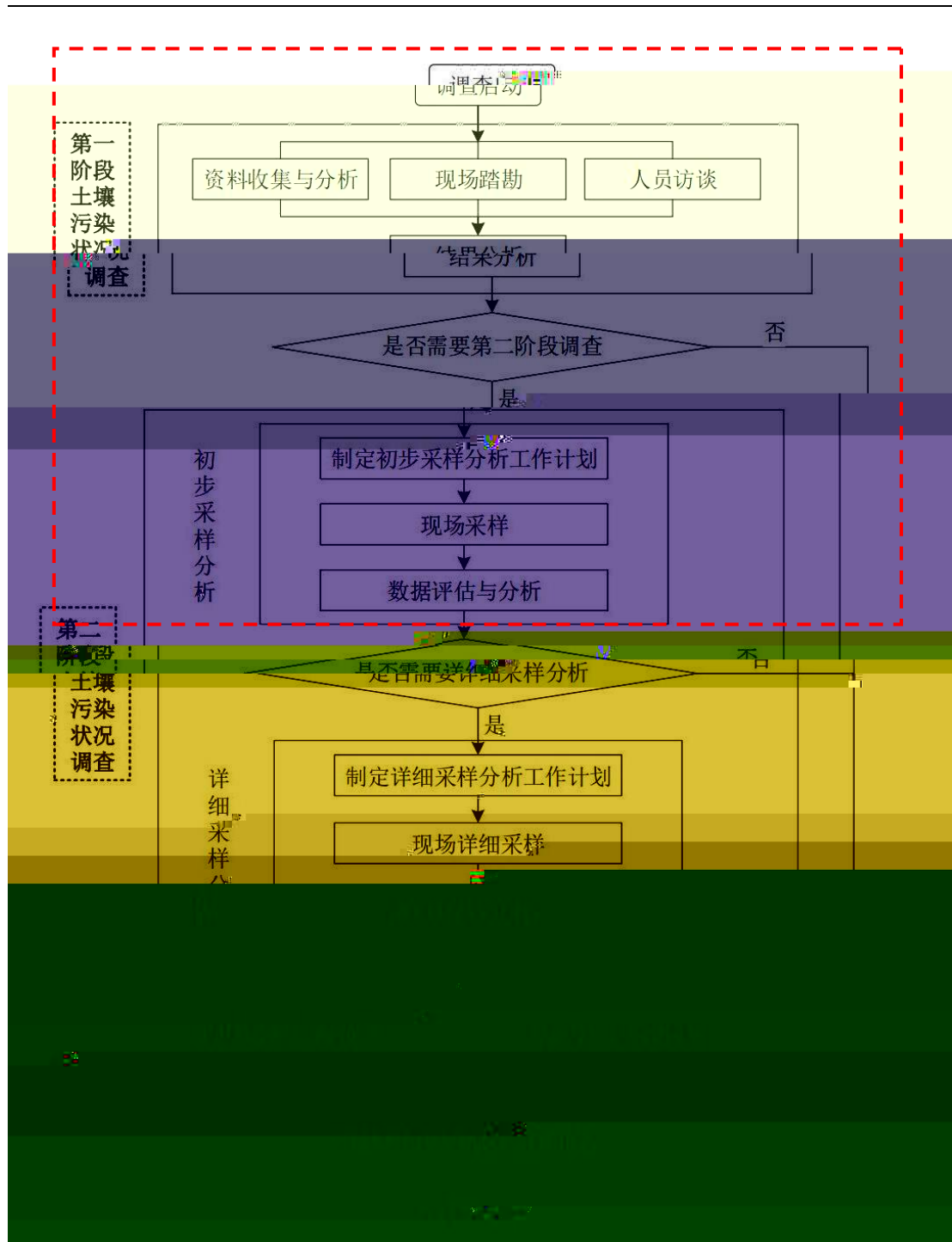
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5					HJ 682-2019
6					HJ/T 20- 1998
1998	1	8	1998	7	1
7					HJ/T164-2020
8					HJ/T 91-2002
9					
10					

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HJ 25. 1-2019

1.3.2



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62

82945.6m<sup>2</sup>

82945.6m<sup>2</sup>

614

3.3

8

3.3

4.7

25

8

1.4

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			614
			82945.6
			[C26]
			119°36 17.319
	177 6867 8517		32°10 53.568

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2011

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2011 10

25

[2011] 210

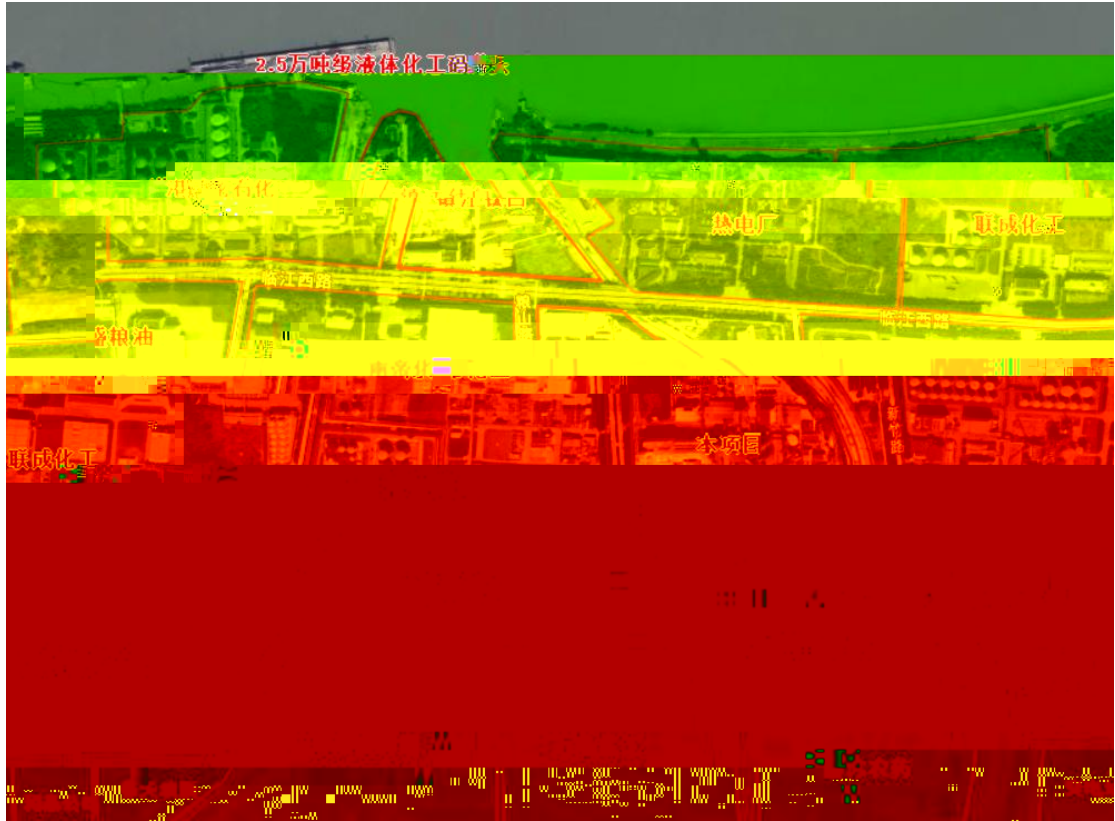
1

1

1

1

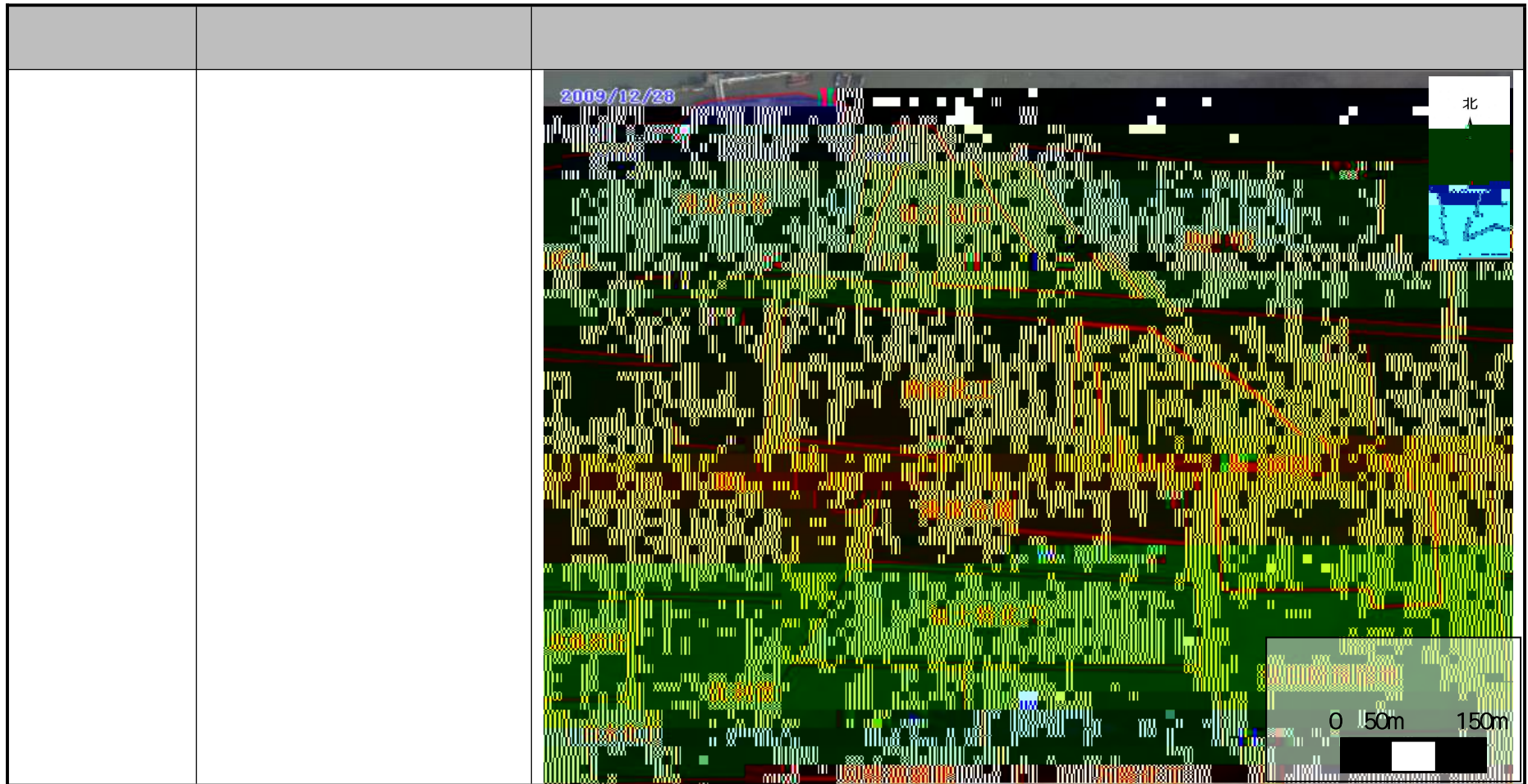
2.2-1



2.3-1

2.3-1

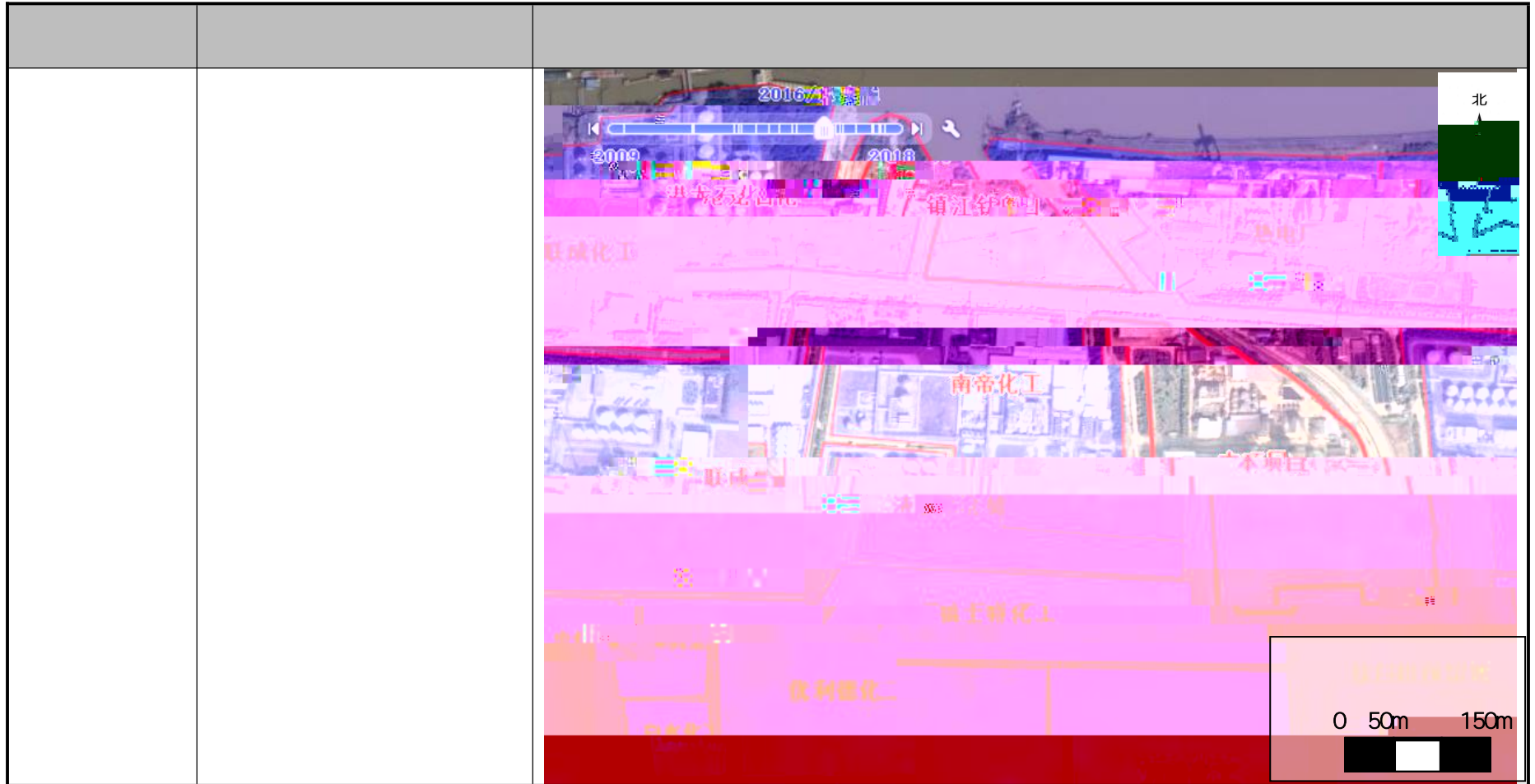
--	1979		
1979			

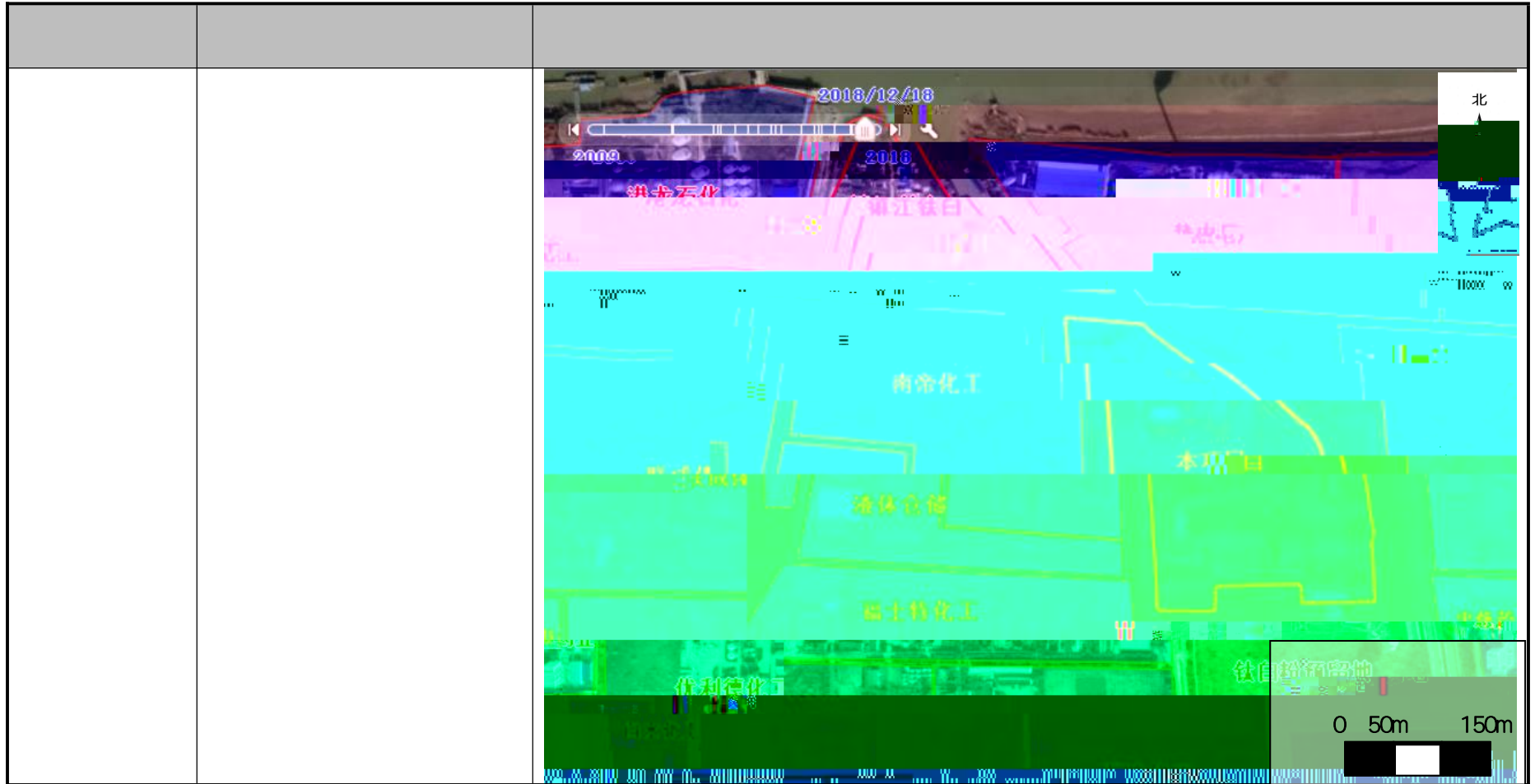


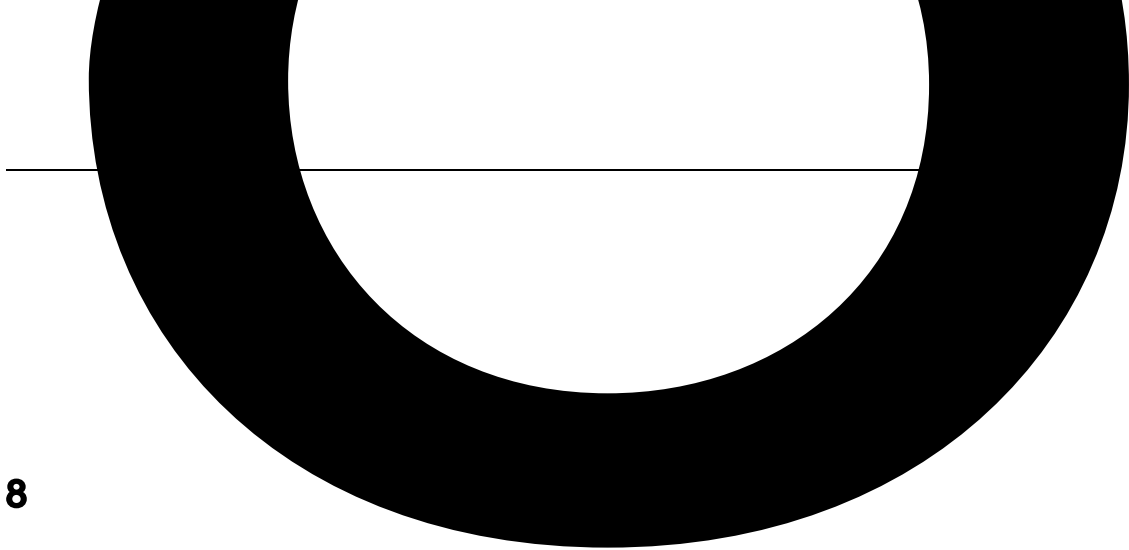
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11









8

5







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1, 2-								
1, 3-		—	—	—	—		—	—
1, 4-	<b>Σ ρ</b>	<b>E!</b>					<b>ω</b>	
1, 2, 4-		—	—	—	—		—	—
1, 2, 3-	<b>∇ ρ E @ ρ</b>	—	—	—	—		—	—
1, 1-								
- 1, 2-								
- 1, 2-								

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1, 1, 2-

1, 2-

C

E

2-												
4-												
2, 4-		—		—		—		—		—		—
2, 4-												
		—		—		—		—		—		—
		—	0. 37mg/kg	—		—		—		—		—
			0. 13mg/kg									
			2. 7mg/kg									
			0. 7mg/kg									
			3. 1mg/kg									
[a]			1. 9mg/kg									

			0. 8mg/kg									
[ b ]			0. 9mg/kg									
[ k ]			0. 5mg/kg									
[ a ]			0. 2mg/kg									
[ 1, 2, 3-c, d ]			0. 4mg/kg									
[ a, h ]			0. 3mg/kg									
[ g h i ]												
-												
-												
-												

		—		—		—		—		—		—
3, 3', 4, 4', 5- PCB126												
3, 3', 4, 4', 5, 5' - PCB169												

	33mg/kg		35mg/kg		47mg/kg		46mg/kg		50mg/kg		33mg/kg	
	90mg/kg		140mg/kg		155mg/kg		137mg/kg		172mg/kg		78mg/kg	
	40mg/kg		60mg/kg		35mg/kg		74mg/kg		45mg/kg		41mg/kg	
	88.7mg/kg		133mg/kg		99.9mg/kg		161mg/kg		231mg/kg		83.6mg/kg	

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27.9mg/kg	53.0mg/kg	22.8mg/kg	42.9mg/kg	85.6mg/kg	26.4mg/kg
0.12mg/kg	0.20mg/kg	0.18mg/kg	0.32mg/kg	0.52mg/kg	0.24mg/kg
1.29mg/kg	1.97mg/kg	2.28mg/kg	2.20mg/kg	2.83mg/kg	1.52mg/kg
8.68mg/kg	11.1mg/kg	9.42mg/kg	10.5mg/kg	12.4mg/kg	7.99mg/kg
0.057mg/kg	0.063mg/kg	0.061mg/kg	0.059mg/kg	0.100mg/kg	0.053mg/kg
1.03mg/kg	4.90mg/kg	1.55mg/kg	0.84mg/kg	3.91mg/kg	0.88mg/kg
447mg/kg	— 511mg/kg	— 518mg/kg	— 461mg/kg	— 582mg/kg	— 492mg/kg
12.2mg/kg	13.6mg/kg	12.9mg/kg	11.5mg/kg	12.6mg/kg	12.8mg/kg
1.07mg/kg	— 1.71mg/kg	— 2.06mg/kg	— 0.79mg/kg	— 4.11mg/kg	— 0.69mg/kg
66.0mg/kg	81.9mg/kg	78.9mg/kg	57.7mg/kg	92.1mg/kg	65.8mg/kg
0.13mg/kg	— 0.21mg/kg	— 0.14mg/kg	— 0.25mg/kg	— 0.40mg/kg	— 0.16mg/kg
0.5mg/kg	— 0.5mg/kg	— 0.5mg/kg	— 0.5mg/kg	—	—



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1, 2, 3-

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1, 1-

- 1, 2-

- 1, 2-

1, 1-

1, 2-

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1, 1, 1, 2-

1, 1, 2, 2-

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2, 4-												
		—		—		—		—		—		—
		—		—		—		—		—		—
[a]												
[b]												
[k]												
[a]												
[1, 2, 3-c, d]												

[ a, h ]												
[ g h i ]												
-												
-												
-												
		—		—		—		—		—		—
3, 3', 4, 4', 5- PCB126												
3, 3', 4, 4', 5, 5' - PCB169												



32

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68.5mg/kg		63.8mg/kg		67.3mg/kg		66.9mg/kg		104mg/kg		126mg/kg	
0.13mg/kg	—	0.09mg/kg	—	0.15mg/kg	—	0.11mg/kg	—	0.12mg/kg	—	0.24mg/kg	—
0.6mg/kg	—	0.5mg/kg	—	0.6mg/kg	—	0.6mg/kg	—	0.6mg/kg	—	0.4mg/kg	—

1, 2-												
1, 3-		—		—		—		—		—		—
1, 4-												
1, 2, 4-		—		—		—		—		—		—
1, 2, 3-		—		—		—		—		—		—
1, 1-												
- 1, 2-												
- 1, 2-												
1, 1-												
1, 2-												
1, 1, 1-												

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1, 1, 2-

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2-												
4-												
2, 4-		—		—		—		—		—		—
2, 4-												
		—		—		—		—		—		—
		—		—		—		—		—		—
[a]												



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		—		—		—		—		—		—
3, 3', 4, 4', 5- PCB126												
3, 3', 4, 4', 5, 5' - PCB169												

	2.83mg/kg	
	8.99mg/kg	
	0.072mg/kg	
	0.80mg/kg	
	478mg/kg	
	12.3mg/kg	
	0.89mg/kg	
	66.3mg/kg	
	0.22mg/kg	
	0.6mg/kg	
pH	7.84	
	585mg/kg	

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1, 3, 5-

1, 2, 4-

1, 2-

1, 3-

1, 4-

1, 2, 4-

1, 2, 3-

1, 1-

- 1, 2-

1, 1-

1, 2-

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1, 2, 3-		
2-		
4-		
2, 4-		
2, 4-		

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





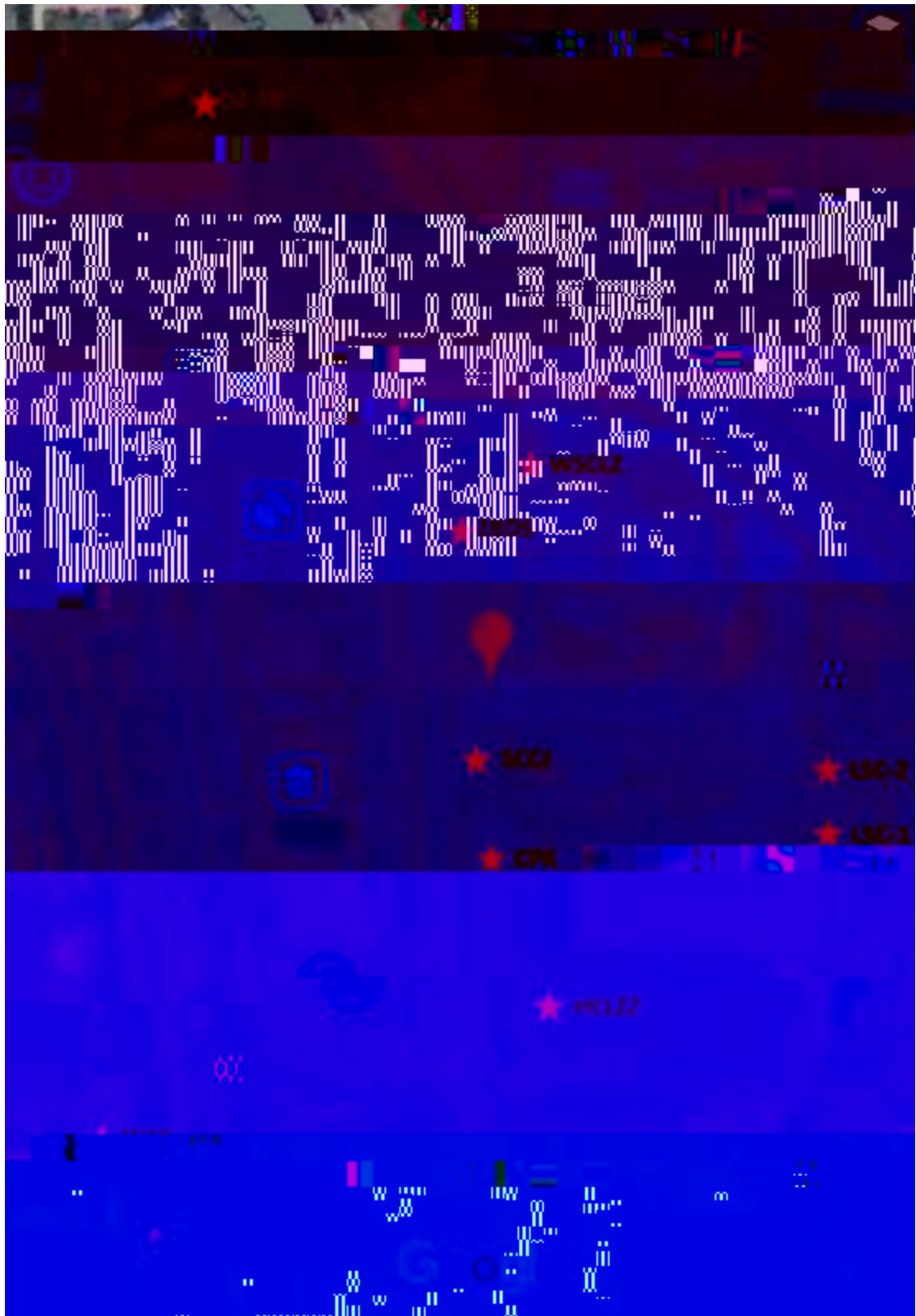
2019 1 14 -2019 1 16

2019 1 13

-2019 1 21

2.4-5 2.4-6 2.4-7

2.4-2





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2350µg/L	39500µg/L	45100µg/L	135000µg/L
OMP/100ml	OMP/100ml	OMP/100ml	OMP/100ml
1.47×10 <sup>4</sup> CFU/ml	1.00×10 <sup>5</sup> CFU/ml	1.09×10 <sup>6</sup> CFU/ml	7.90×10 <sup>3</sup> CFU/ml
0.04mg/L	0.05mg/L	0.18mg/L	
	6.1mg/L	1.2mg/L	
			0.078mg/L
		1.1µg/L	
			0.08µg/L
	0.24µg/L	0.42µg/L	0.41µg/L
	0.19µg/L	0.70µg/L	0.24µg/L
		8.36µg/L	4.49µg/L
	1.40µg/L	0.71µg/L	6.15µg/L

	0.16µg/L		2.44µg/L		1.24µg/L		0.30µg/L	
	165µg/L		302µg/L		43.4µg/L		13600µg/L	
	0.70µg/L		1.03µg/L		0.58µg/L		18.2µg/L	
	0.81µg/L		1.86µg/L		1.85µg/L		1.90µg/L	
		—	1.69µg/L	—	1.06µg/L	—		—
			0.28µg/L		0.71µg/L		0.18µg/L	
					0.04µg/L			
	0.55µg/L		3.91µg/L		2.84µg/L		8.10µg/L	
	0.31mg/L		0.68mg/L		0.33mg/L		0.48mg/L	
1,1-								
1,2-								

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1,2-

1, 1, 1-

1, 1,2-

1,2-

2,2-

6 >

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[

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[g h i]

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	40NTU		120NTU		55NTU		9NTU
	50		45		50		15
pH	7.31		7.18		7.71		7.40
	447mg/L		286mg/L		182mg/L		1400mg/L
	742mg/L		408mg/L		580mg/L		2880mg/L
	51.2mg/L		30.1mg/L		15.0mg/L		1030mg/L
	11.7µg/L				9.69µg/L		
					0.15mg/L		
	1.01mg/L		1.26mg/L		3.68mg/L		3.27mg/L
					0.062mg/L		0.377mg/L

	50000µg/L		15700µg/L		130000µg/L		95500µg/L
	OMP/100ml		OMP/100ml		OMP/100ml		OMP/100ml
	1.44×10 <sup>6</sup> CFU/ml		2.70×10 <sup>3</sup> CFU/ml		6.00×10 <sup>5</sup> CFU/ml		9.75×10 <sup>5</sup> CFU/ml
	0.01mg/L				0.05mg/L		
	0.8mg/L				0.3mg/L		
	0.07µg/L				0.11µg/L		
	0.36µg/L		0.17µg/L		5.72µg/L		0.08µg/L
	0.23µg/L		0.04µg/L		3.00µg/L		
	3.53µg/L				10.0µg/L		
	1.86µg/L		0.33µg/L		1.65µg/L		0.31µg/L

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0.18µg/L

255µg/L

0.68µg/L

51.0µg/L

1.29µg/L

797µg/L

2.01µg/L

2220µg/L

∇

∇ B• b

880

1,2-								
1, 1, 1-								
1, 1,2-								
1,2-	10.6µg/L							
2,2-		—		—		—		—
		—		—		—		—
		—		—		—		—
		—		—		—		—
		—		—		—		—
		—		—		—		—

	1.5µg/L							
		—		—		—		—
		—		—		—		—
		—		—		—		—
		—		—		—		—
		—		—		—		—
		—		—		—		—
		—		—		—		—





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	60NTU	
	35	
pH	7.22	
	545mg/L	
	782mg/L	
	54.0mg/L	
	2.78mg/L	
	0.064mg/L	
	20400µg/L	

	0MPN/100ml	
	6.05×10 <sup>3</sup> CFU/ml	
	0.05mg/L	
	2.3mg/L	
	0.30μg/L	
	0.14μg/L	
	22.4μg/L	
	2.61μg/L	
	2.31μg/L	

	2670µg/L	
	1.72µg/L	
	3.19µg/L	—
	0.29µg/L	
	4.97µg/L	
	0.15mg/L	
1, 1-		
1,2-		
1,2-		
1, 1, 1-		





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

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	LSC-2		66	8	12.1 %
	SCCJ		66	7	10.6 %
	CPK		66	5	7.58 %
	HCLZZ		66	5	7.58 %
	WFK		66	7	10.6 %

8

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119°45'

32°11'

20km

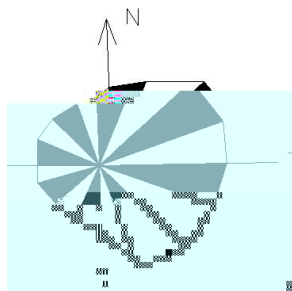
7

20

6

3.2-1

	101.4 KPa
	15.4
	40.9
	-12.0
	78%
	1082.7 mm
	262.5 mm
	23.0 m/s
	3.3 m/s
	SE 3.3 m/s
( )	ESE 3.3 m/s
( )	NNE 3.4 m/s
(%)	7.6



“

”

---

11-72m<sup>3</sup>/d

500m<sup>3</sup>/d

HCO<sub>3</sub>-Ca

HCO<sub>3</sub>-Ca-Mg

1-2m

47-78m

30-65m

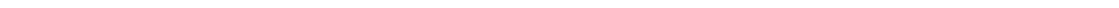
60m

80

80-300

2%

54%



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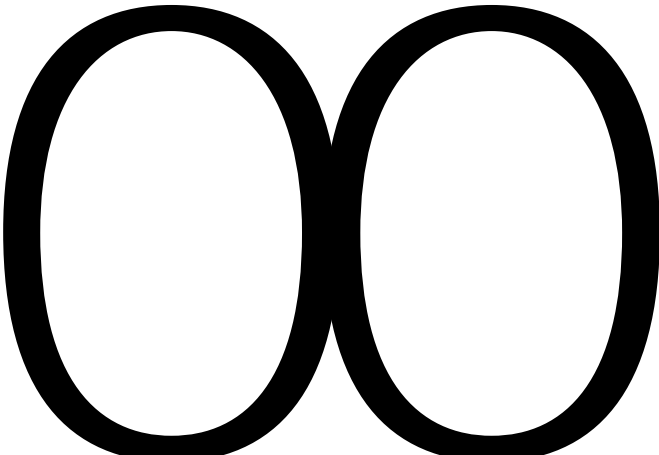
---

1	3.3	/		33000	33000
2	8	/		80000	80000
3	25	/		250000	250000
4	8	/		80000	80000
5	1.4	/	55%	14000	14000

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ج

ب



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( )

( )

)

98.08

0.13kPa

H<sub>2</sub>SO<sub>4</sub> 10.5 330.0 (

=1)1.83 (

=1)3.4

( )

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MnO	1650 =1)5.09	(		/
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33000t/a	12000m <sup>2</sup> 21680m <sup>2</sup> 3F
80000t/a	6800m <sup>2</sup> 15010m <sup>2</sup> 4F
80000t/a	900m <sup>2</sup> 1455m <sup>2</sup> 2F
200000t/a	700m <sup>2</sup> 1985m <sup>2</sup> 3F
3807m <sup>2</sup>	4400m <sup>2</sup> 3807m <sup>2</sup> 1F
1200m <sup>3</sup>	225m <sup>2</sup>
2000m <sup>3</sup>	2100m <sup>2</sup>
2568m <sup>2</sup>	2880m <sup>2</sup> 2568m <sup>2</sup> 1F
1910m <sup>2</sup>	2120m <sup>2</sup> 1910m <sup>2</sup> 1F
1512m <sup>2</sup>	1440m <sup>2</sup> 1512m <sup>2</sup> 1F
1350m <sup>2</sup>	1500m <sup>2</sup> 1350m <sup>2</sup> 1F

25m <sup>3</sup> /h		
25000m <sup>3</sup> /d	m <sup>3</sup>	24000

			300m <sup>3</sup> /h	300m <sup>3</sup> /h 290m <sup>3</sup> /h
			815.07m <sup>3</sup> /h	1000 m <sup>3</sup> /h
			4.0m <sup>3</sup> /h	
			100m <sup>3</sup> /h	
			2000m <sup>3</sup> /h	1      2000m <sup>3</sup> /h
			30t/ h	
			35KV	
			230m <sup>3</sup> /min	10      184      /
				3
				2
				1
				1
			1000m <sup>3</sup> /h	
			600m <sup>2</sup>	
			2700m <sup>3</sup>	
			3000m <sup>3</sup>	
			600m <sup>3</sup>	
			935m <sup>2</sup>	50
			15800m <sup>2</sup>	



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420

SO<sub>2</sub>

SO<sub>3</sub>

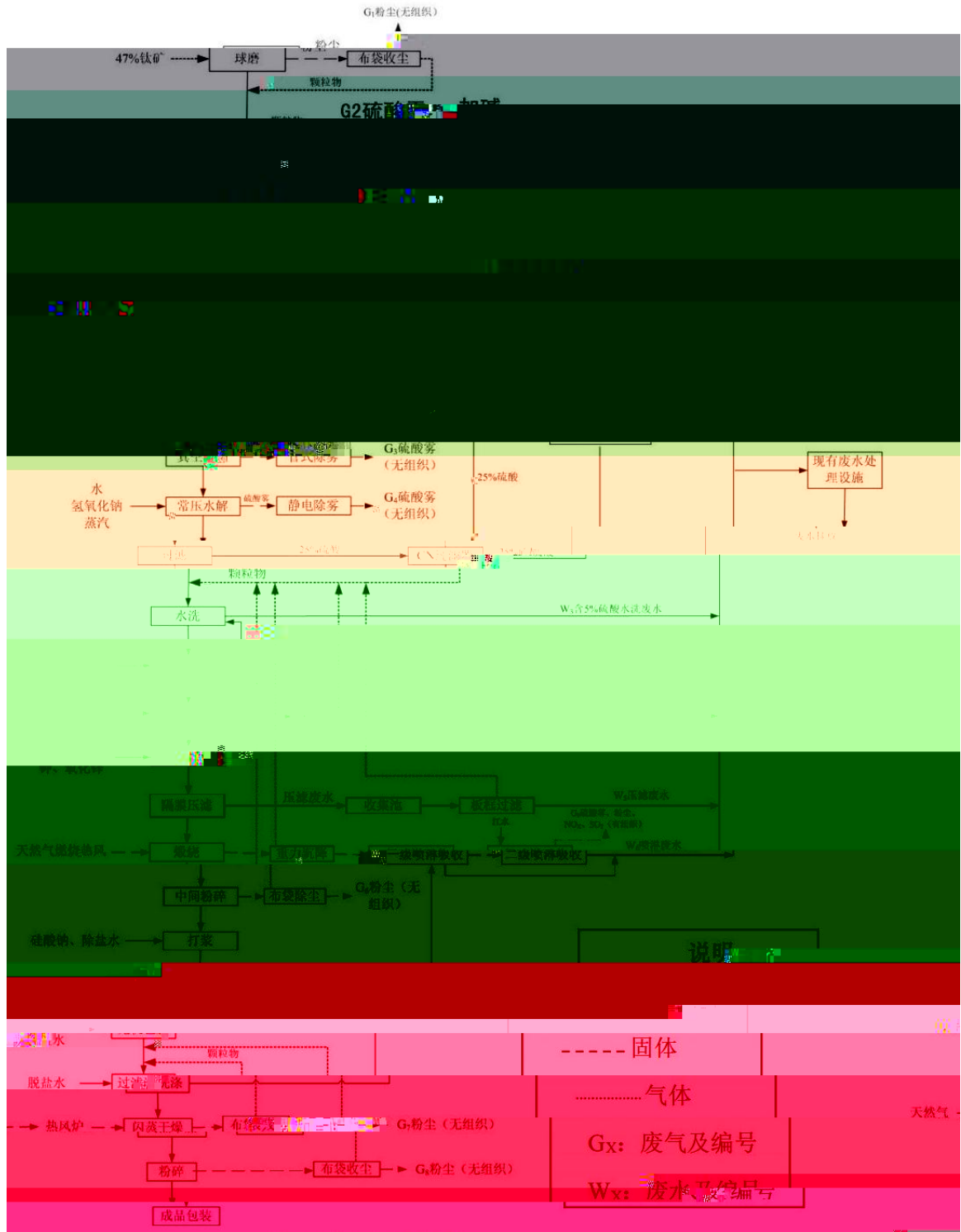
H<sub>2</sub>SO<sub>4</sub>

4

4.3-1

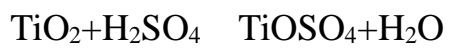
	S1	
	S2	
	G1	SO <sub>2</sub>
		pH COD SS

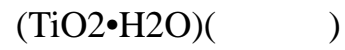
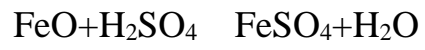
1



2

$TiO_2$





3

1

“3+2”

,

1050

1100

420

$\text{SO}_2$



Fe<sup>3+</sup>F      Fe<sup>2+</sup>(      11- 12      )

(      8

(4)

FeSO<sub>4</sub>

FeSO<sub>4</sub>·7H<sub>2</sub>O

10

FeSO<sub>4</sub>·7H<sub>2</sub>O

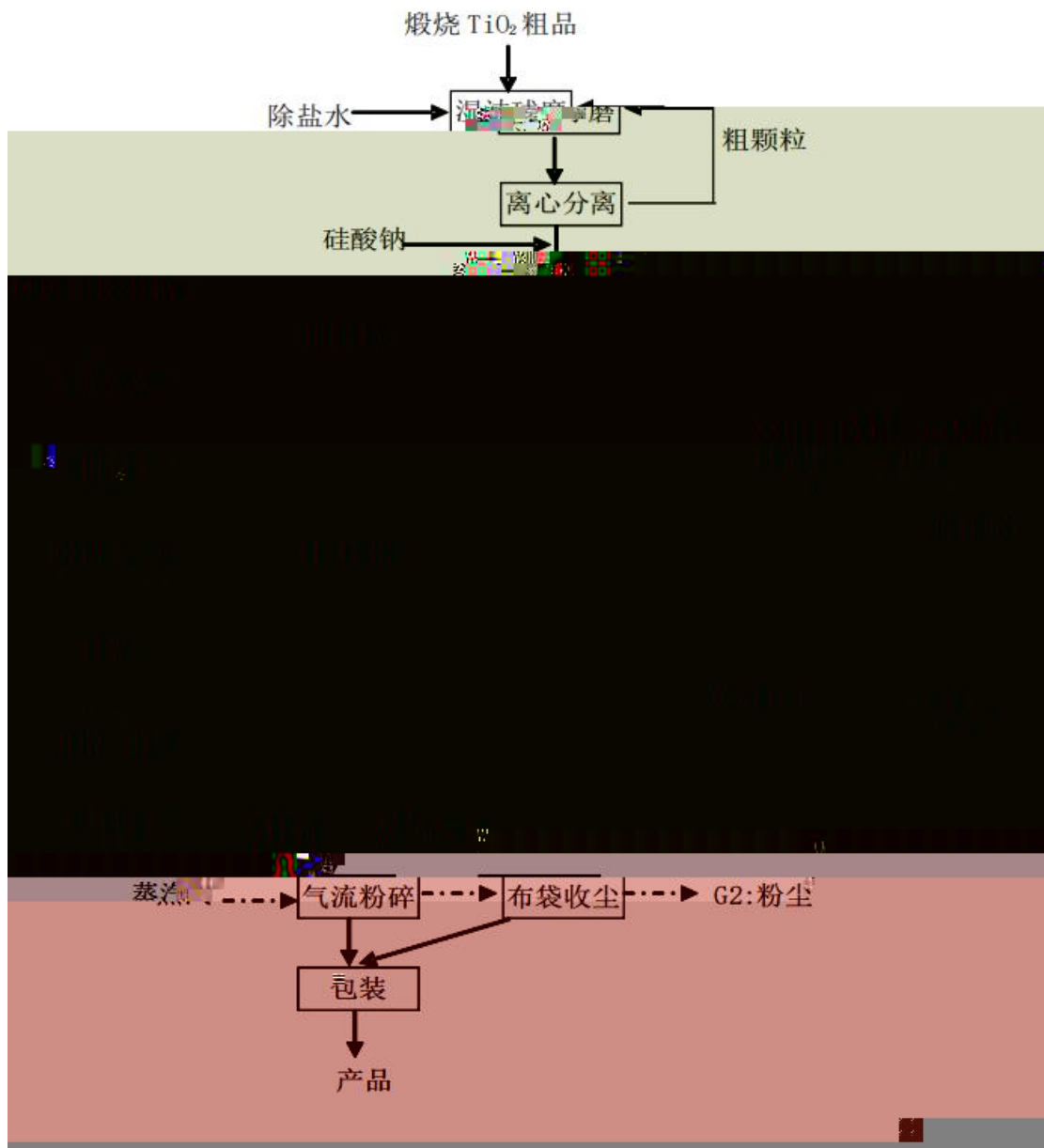
(5)

25      1.67      (      230g/l)



4.3-2

	G1	
	G2	
	G3	
	G4	
-	W1 W2	PH COD SS
	S1	20% TiO <sub>2</sub> 80%
	G5	
	W5	PH COD SS
	G6	HCl
	W6	PH COD SS
TiO <sub>2</sub>	W8	PH COD SS
	G7	SO <sub>2</sub> NOX
	G8	



2

pH

( )

3

		PH COD SS

1



---

n S0 3-n/2 m

pH

2



3

$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$

20

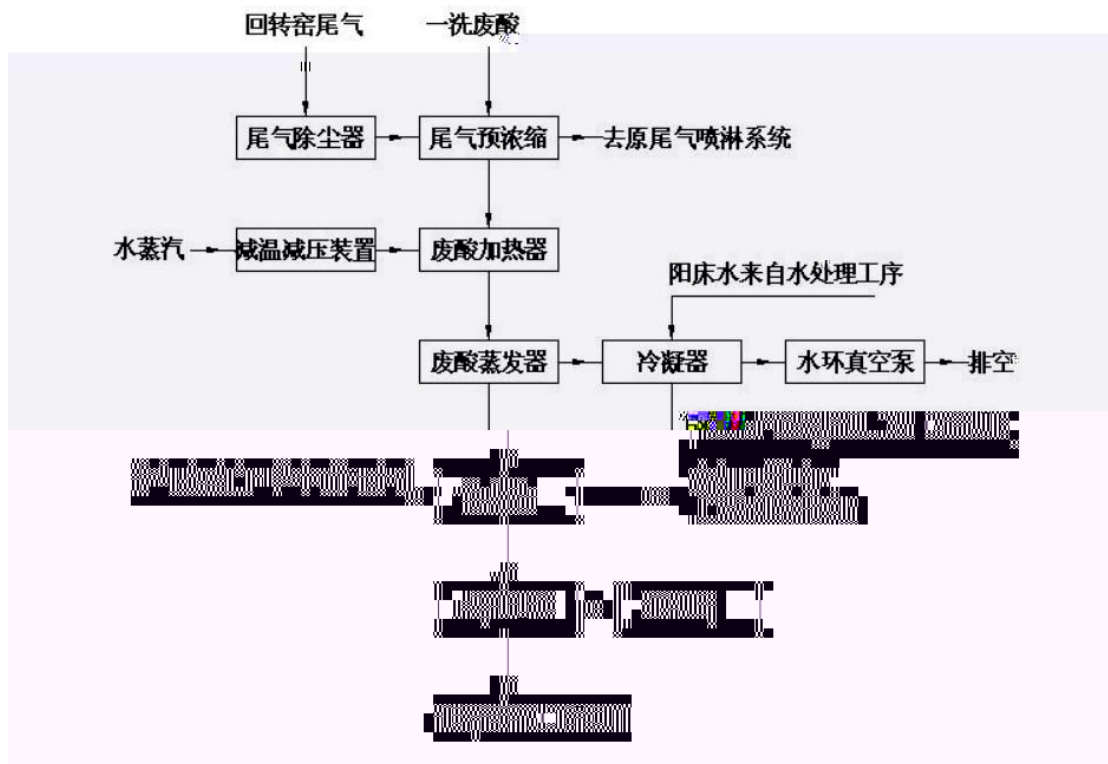
0.31 0.5,

50 90 ( 90

) 0.15 0.25MPa (1.5 2)h

60

1



2

30ppm

509

100m<sup>3</sup>/h

20

509

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1

4.3-4

---

--	--	--	--

2

c

pH

COD

SS

pH

COD

SS

pH

COD

SS

pH

COD

SS

pH

COD

SS

COD

SS

pH

---

---

pH

---

a

b

c

d

e

1

2

---

3

4

1

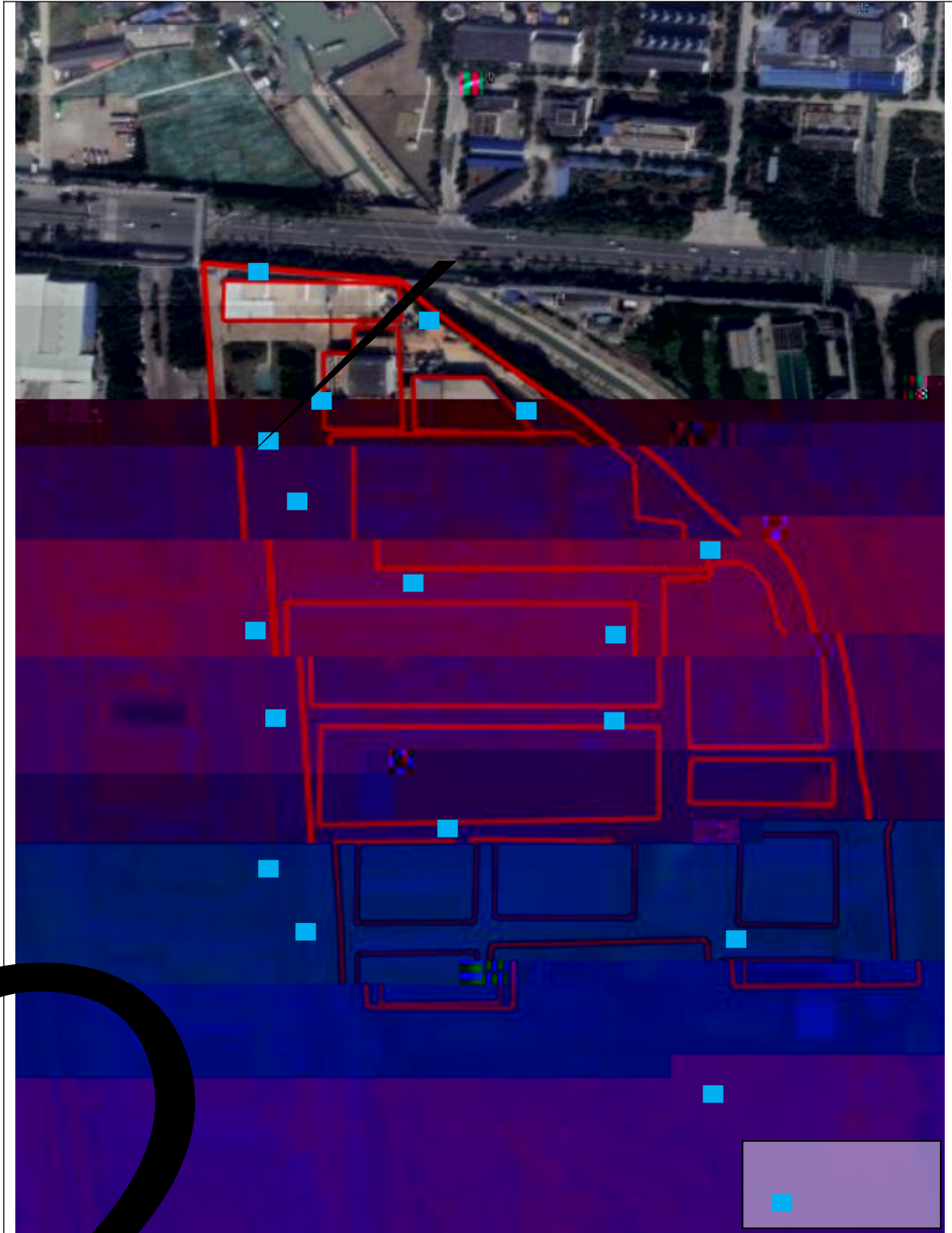
;

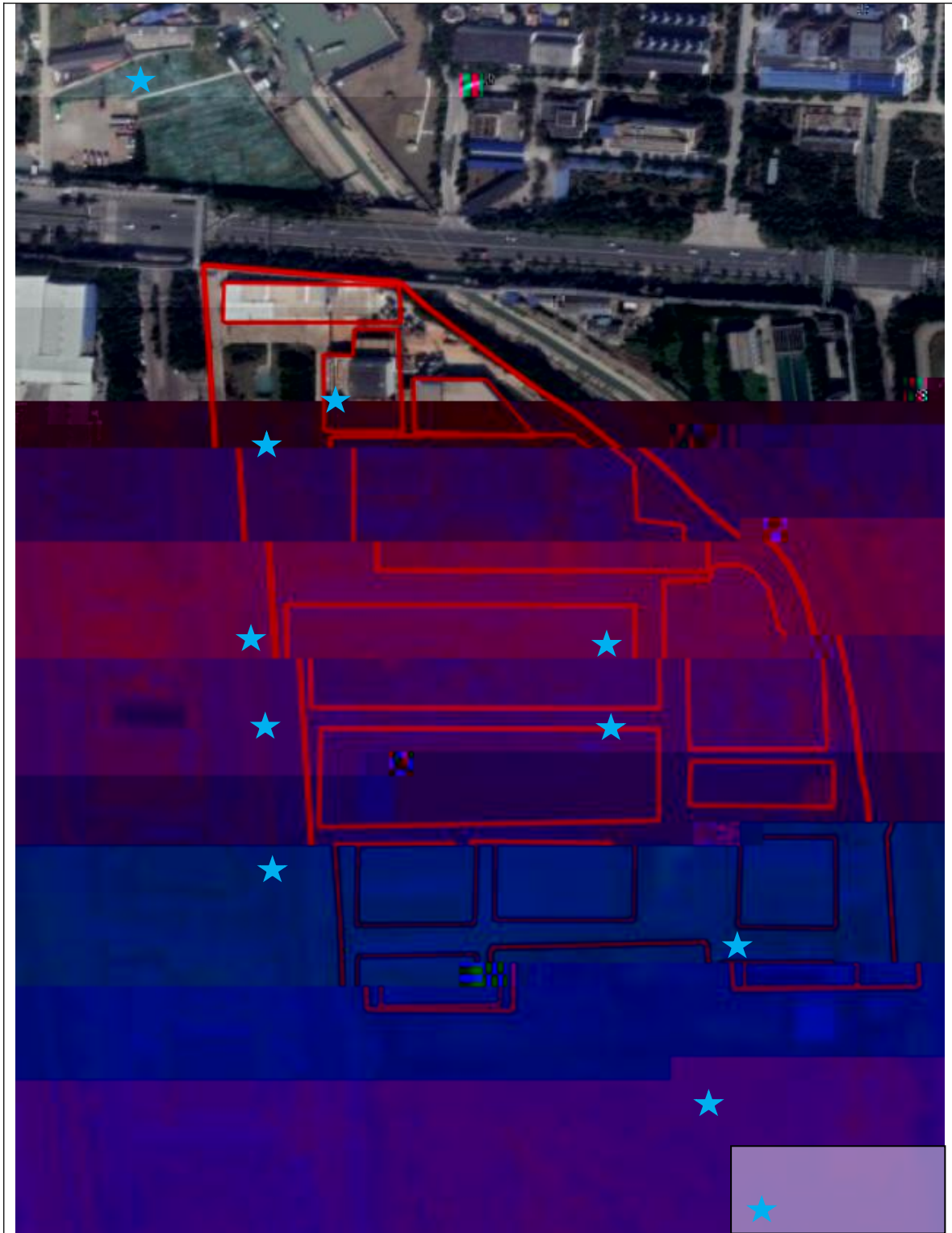
2

3

4







S1/W1		0 0.2m

---

S2		0 0.2m
S3/W2		0 0.2m
S4		0 0.2m
S5/W3	/	0 0.2m
S6/W4	/	0 0.2m
S7/W5		0 0.2m
S8/W6		0 0.2m
S9		0 0.2m
S10		0 0.2m
S11		0 0.2m
S12/W7		0 0.2m
S13		0 0.2m
S14/W8		0 0.2m
S15		0 0.2m
S16		0 0.2m

HJ 25. 1-2014

HJ 25.2-2014

---

pH

45 +

27

11 pH

+ pH

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	S12		1	
	S13		1	
	S14		1	
	S15		1	
	S16		1	
	S-DZ1		1	

---



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<u>W1</u>		<u>1</u>	
<u>W2</u>		<u>1</u>	pH
W3		1	
W4		1	
W5	/	1	
W6		1	
W7		1	
W8		1	
W-DZ1		1	



" 1~2 "

2~3 1

2 1



;

10%

10ml

40ml

10ml

40ml

50 m

a

GB/T14848-2017

J164-2020

GB/T14-1993

/ HJ759-2015

1

2

4 \$Y

O



1

2

2

3

pH

4

5

$r > 0.999$

„(Ō)ŕ!yp° ŠtŌ” aĚ°;• DC° fl @ — — — — — Ê — — — — — Ê Š — — — — — 9



W T ŕop — w%op( •ÿ ° yp ° £ •ùNđ yp° ¼• ( '0Yp° „ ` ° f' •ù#yp° ‹ ° Ōyp( •ø° “9p



1  
10%  
0.5-2.5  
0.9  
3-5 0.5-10  
2-3  
1%

---

9

5

1/5

;

10%

95%

HJ/T166 HJ/T164