

:

:

:

:

:

:

:

:

: 0991-3768459

1		1
2		3
2.1		3
2.2		3
3		4
3.1		4
3.2		5
3.2.1		5
3.2.2		6
3.3		6
3.3.1		6
3.3.2		10
3.3.3		10
3.3.4		10
3.4		11
3.5		12
3.5.1		12
3.5.2		14
3.5.3		15
3.6		16
4		18
4.1	/	18
4.1.1		18
4.1.2		22
4.1.3		23
4.1.4		24
4.2		24
4.2.1		24

4.2.2		25
4.2.3		26
4.2.4		26
4.2.5		27
4.2.6		28
4.3		28
4.3.1		28
4.3.2	" "	29
4.3.3		29
5		32
5.1		32
5.1.1		32
5.1.2		34
5.1.3		35
5.1.4		35
5.1.5		35
5.1.6		35
5.1.7		36
5.1.8		36
5.1.9		36
5.1.10		37
5.2		37
6		40
6.1		40
6.2		41
6.3		41
6.4		41
7		43
7.1		43

7.1.1	43
7.1.2	43
7.1.3	44
8	46
8.1	46
8.1.1	46
8.1.2	46
8.1.3	47
8.2	47
8.3	47
8.4	48
8.5	49
9	51
9.1	51
9.2	51
9.2.1	51
9.2.2	52
10	59
10.1	59
10.2	59
10.3	59
10.4	59
10.5	60
11	61
11.1	61
11.1.1	61
11.1.2	61
11.2	63
11.3	63

11. 4

63

12

65

1

2

3

4

5

6

7

8

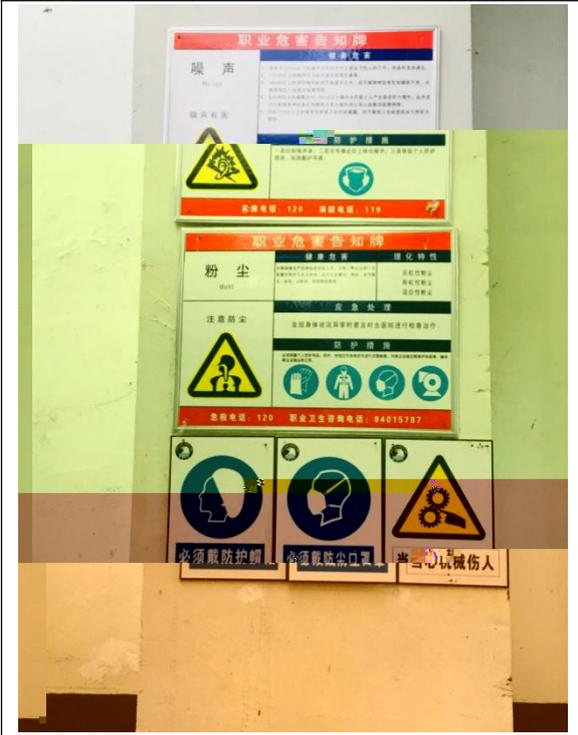
9

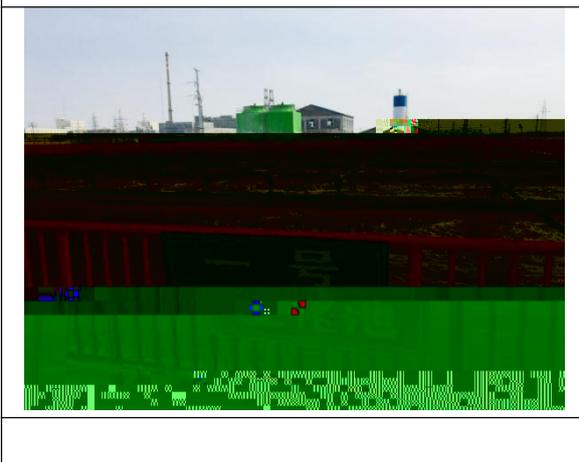
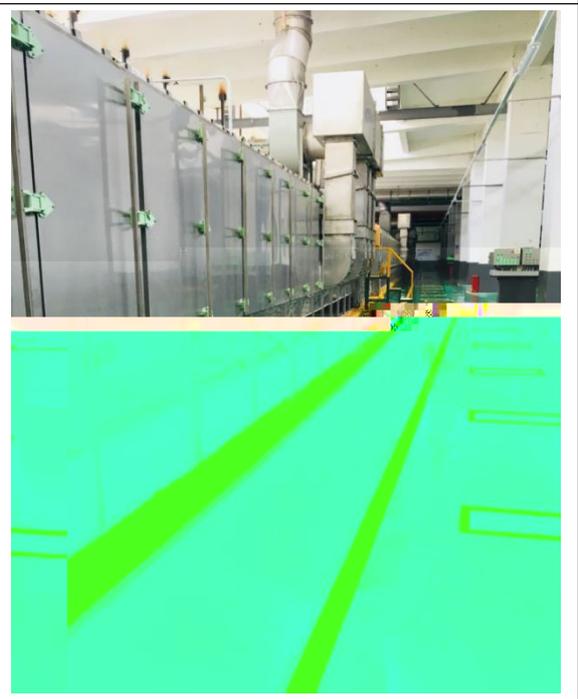
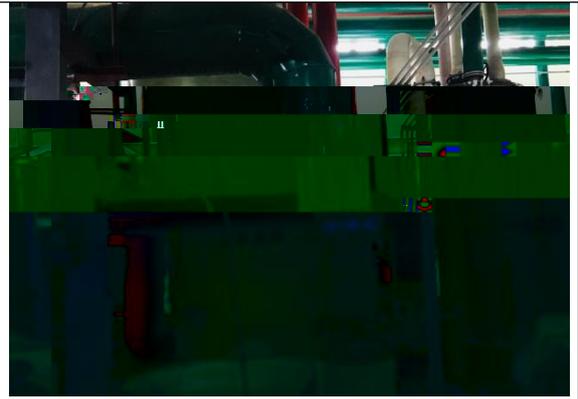
5 /

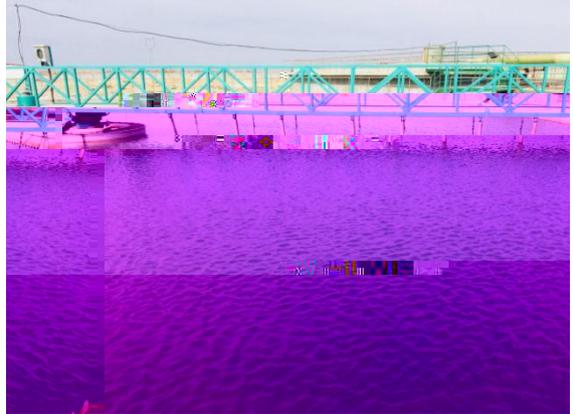
10

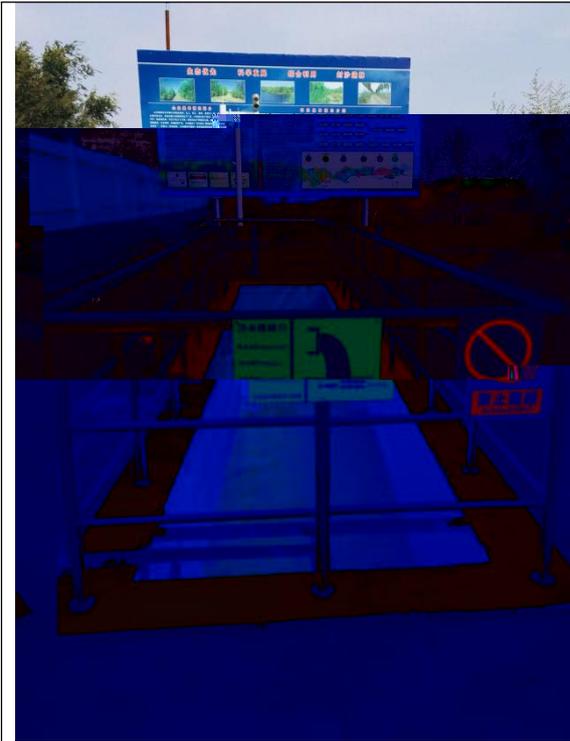
11

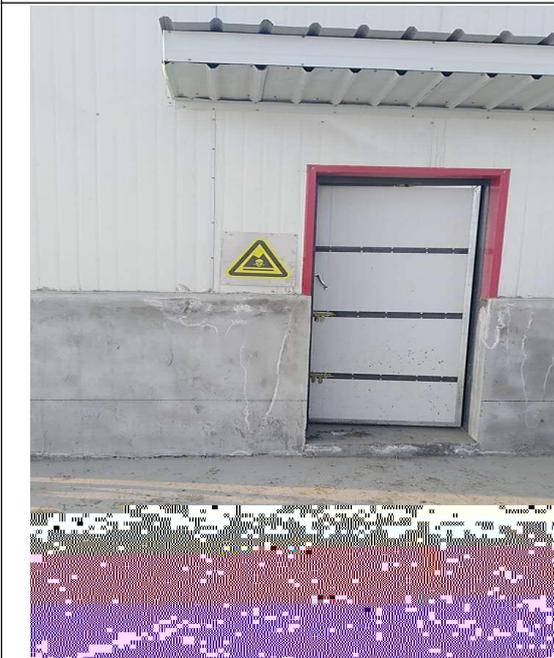
12











1

10

1km

-

200m

761502.4m²

133496

12195.68

9.14%

5 /

10 /

10 /

2015 2

10

2015 3 31

[2015] 309

2016 6

2018 8

682

2018 10

10

2018 10

2

2.1

1 2014 12

8 2015 1 1

2 13 6

2018 10 26

3 2017 12

28 2017 6 27

4 8 22

1996 10 29

5 2004

10 13 2015 4 24

6 682 2017

10 1

7

[2017] 4

8

2018 9 2018 5 15

2.2

1

10 , 2015 2

2 [2015] 309

10

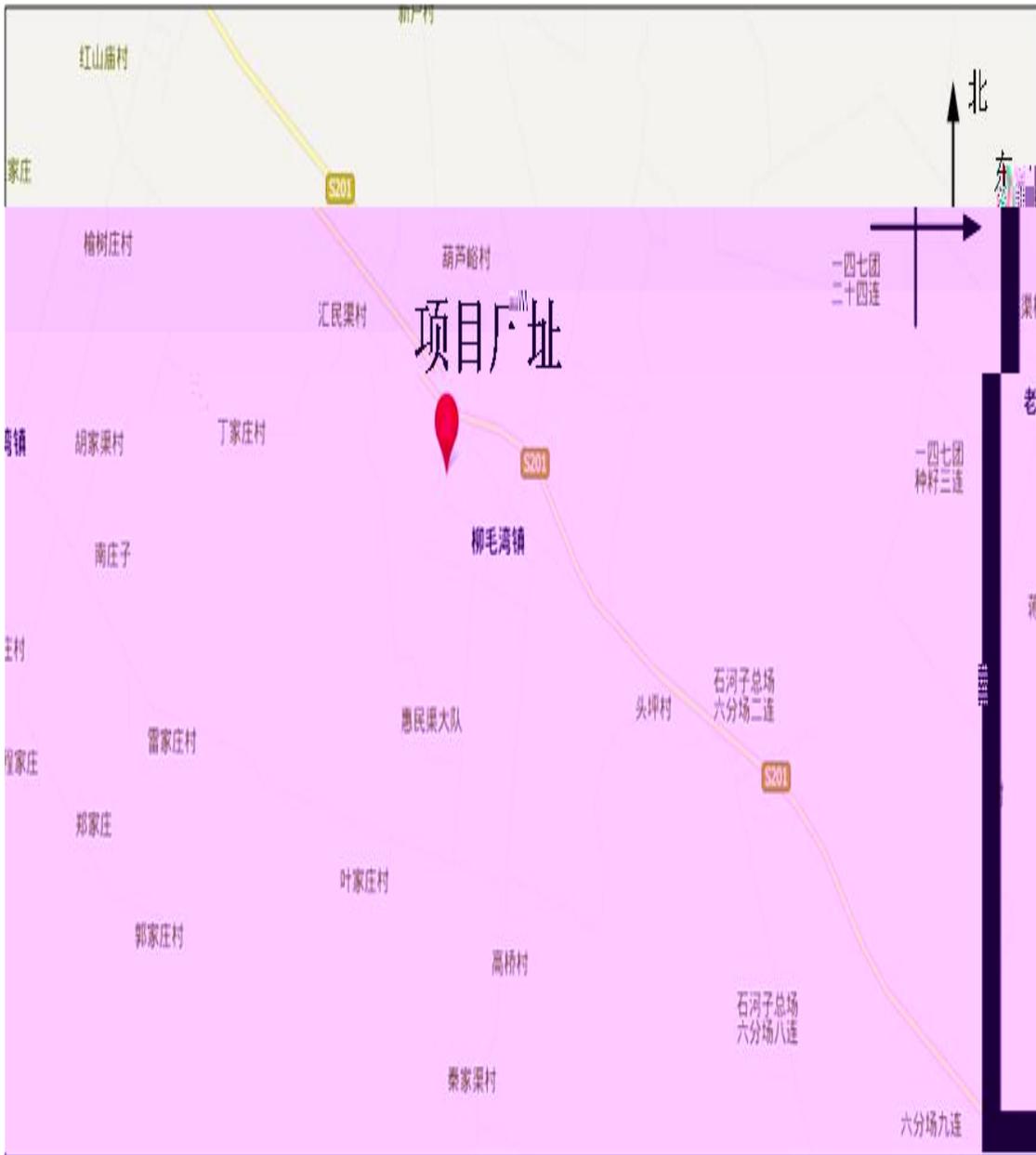
2015 3 31

3

3.1

1km

200m
85° 53 54 44° 38 19 1.5km
980m 3.1-1



3.1-1

3.2

3.2.1

5 /

3.2-1

3.2-1

5 /

		1. 38dtex		1D
			5D	
		3 75t/h		
		4	1	1
				6
			2000	10
			150m	
			120m	
			3. 3m ³ /d	
			2. 5m ³ /d+	
			0.8 m ³ /d	
			20km	
			375	347
			28	

479520m²

335664m²

3.2.2

3.2-2

3.2-2

	2014 35 "	2.4m 5m
		75m

3.3

5 /

10 /

10 /

3.3.1

()

3.3-1

3.3-1

		3 / 2 /	5 / /	3 / 2 / 10 / 5
		1		1
		3x 75t/h		2 130t/h
		2 130t/h		
		1 20m ³		1 22.6m ³
		+ 150m	+	150m + 1
	+SNCR	+ 120m		+SNCR 120m
				+

			16000m ³ /d	
	m ³	900 20km		
		8000m ³	40 m ³	8000m ³ 40 m ³
		560	560	

3.3.2

761502m² 1143.4

3.3-1

3.3.3

3.3-2

3.3-2

1		10 ⁴ t/a	3	/
2		10 ⁴ t/a	5	/
3		10 ⁴ t/a	2	0.9905

2018

3.3.4

3.3-3

3.3-4

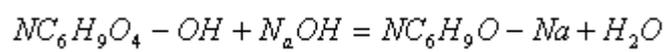
3.3-3

		(t/a)	(t/a)
1		103000	57100
2		0	44800
3		53000	5834.914
4		72800	7604.172
5		8500	2844.84
6		3500	247.091
7		3200	34.827
8		280	7.8

3.5

3.5.1

()



()

(

CS₂

)

3% 5%

2% 3%

CS₂

90.5% H₂S

97.5%

||

||

||

||

||

||

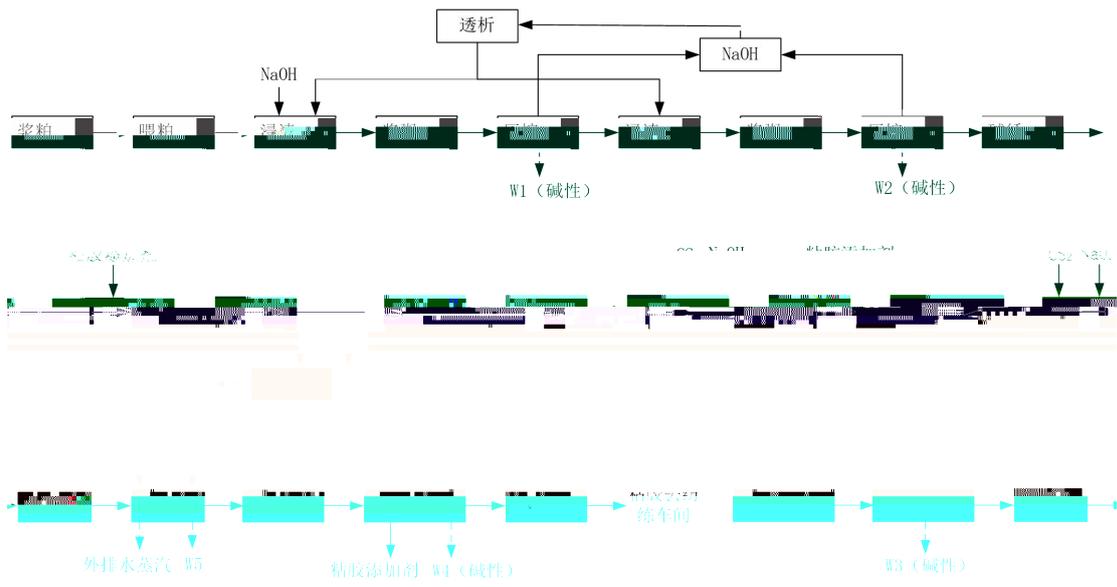
||

||

||

||

3.5-1



3.5-1

3.5.2

(A)

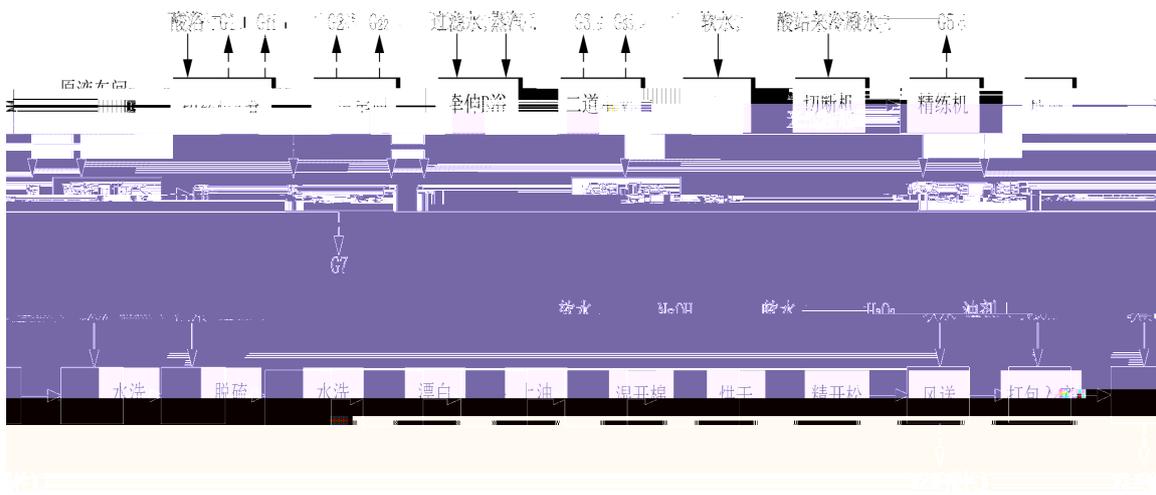
(B)

C

(
)

3.5-2

图例: G-废气 W-废水

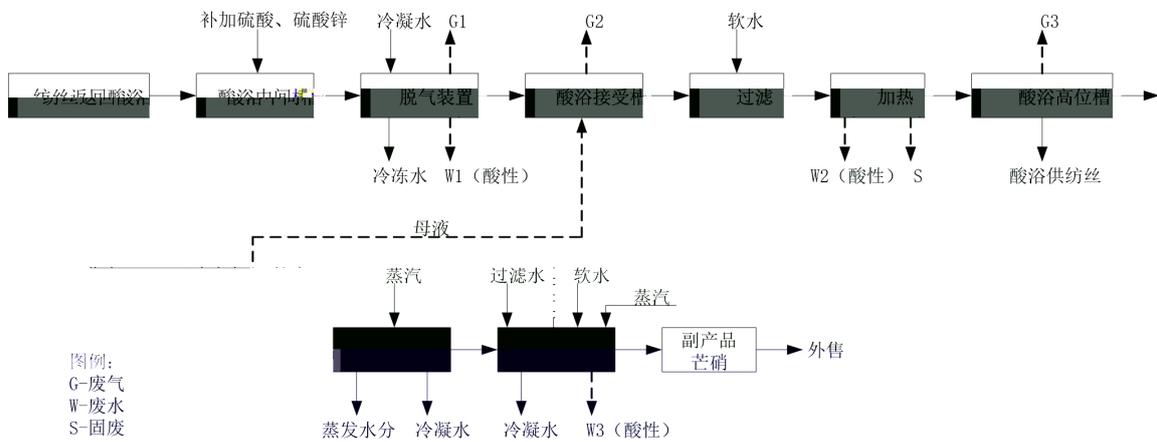


3.5-2

3.5.3



3.5-3



图例：
G-废气
W-废水
S-固废

3.5-3

3.6

3.6-1

3.6-1

1	1 20m ³	1 22.6m ³
2	+SNCR +	+SNCR 120m
3		40 m ³



$$8000\text{m}^3 + 40\text{m}^3$$

4

4.1 /

4.1.1

1



PH 1 3

S²⁻

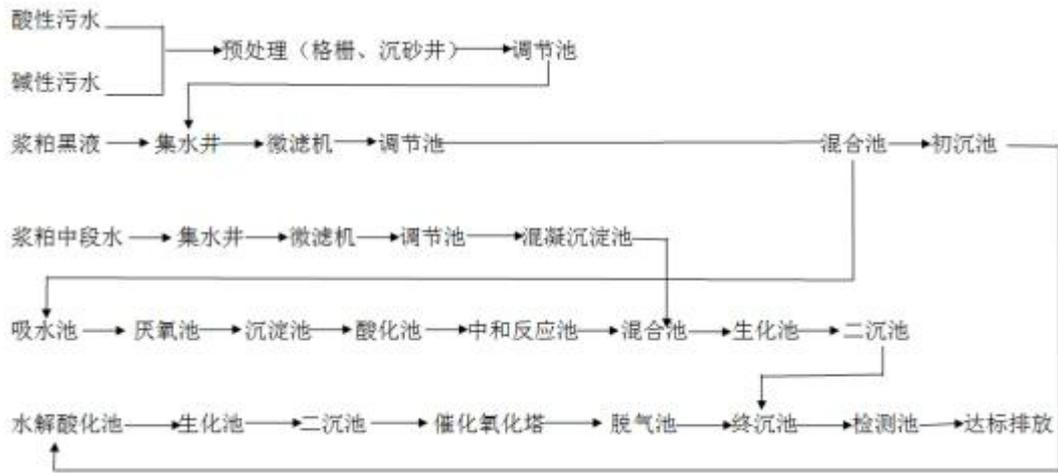
PAM

PH

5-6

PH

9.5



4.1-1

4.1-1

			m ³ /h		
		COD S ²⁻	127		
A		COD Zn ²⁺ CS ₂ H ₂ S	250.6		
		COD Zn ²⁺ S ²⁻	127		
		COD SS SO ₄ ²⁻	5		
		COD	6		
		COD	5		
		COD BOD SS	0.6		
		COD SS	16.5		
		COD BOD SS Zn ²⁺	537.7		

3

40 m³

4

650 m³ 2007

7 16

2007[275]

2018

[2018] 13

2018 7 31

2008

30m 70

5

pH COD

2009

12

2014

COD

2015 6

2018

9

TOC

2014

COD

2018 9

4. 1- 2

4. 1- 2

	TOC- 4100		pH	
	WD6100 WD6200		COD NH ₃ - N	

	TOC-4200		COD	
--	----------	--	-----	--

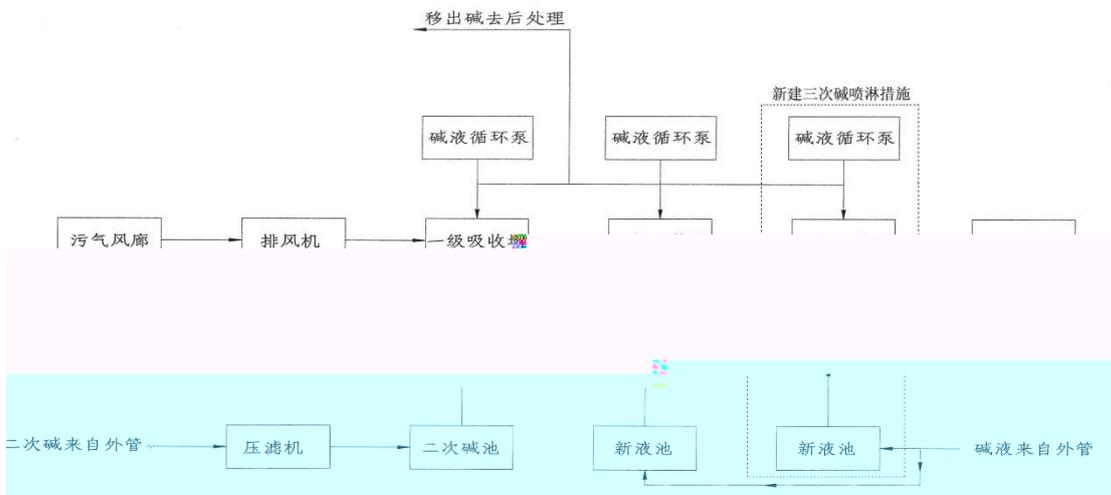
4.1.2

1

CS₂ H₂S

150m

4.1-2



4.1-2

2

SO₂ NO_x 2 130t/h

(1 1)

FE54

SNCR

120m

3

CS₂ H₂S

150m

2.4m

75m

5m

4. 1-3

4. 1-3

		CS ₂	150m	/	
		H ₂ S CS ₂ SO ₂	150m	+	
		H ₂ S CS ₂	150m	/	
		SO ₂ NO _x	120m	+ +SNCR	
		H ₂ S CS ₂	/	/	

4

40

SO₂ NO_x 2018 11

2014 12

4. 1-4

4. 1-4

			SO ₂ NO _x	
	H ₂ S		H ₂ S	

4. 1. 3

4. 1. 4

4656t/a

4. 1-5

4. 1-5		t/a		
		1		
		0		
		105		
		0		
		0		
		0		
		3100		
		1400		
		0		
		50		
		4656		

4. 2

4. 2. 1

15

/

1

3

40

4. 2. 2

1

2

3

4

4. 2. 3

" "

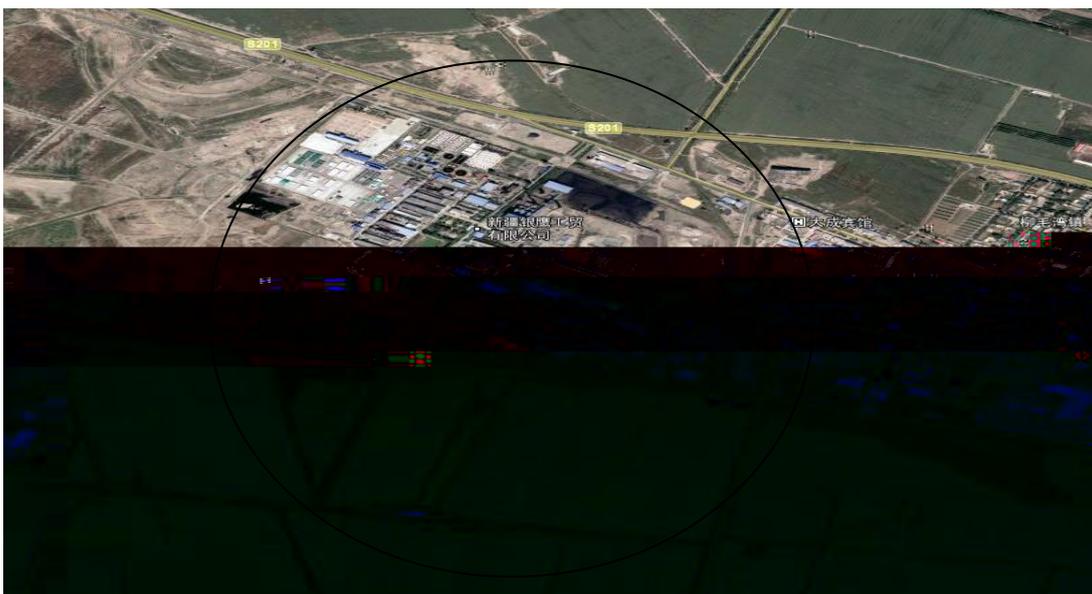
654200-2018-013-M

4.2.5

760m 1000

312

4.2-1



4.2-1

4.2.6

1

2

SO₂ NO_x q 2013 4

1

COD pH

		0030	12195

1 2015 2
 10

2 2015 3 31

[2015] 309

3 10

2016 6

4 2018 8

+
 90.5%
 97.5%
 GB14544-93
 150
 +SNCR
 + 95% 99.8%
 50%
 2
 GB13223-2011
 120
 GB14544-93 1
 1000

GB12348-2008

3

GB12348-2008 3

6

5

5.1

5.1.1

4

CS₂ H₂S

(TJ36-79) "

"

CS₂ H₂S

(GB14554-93)

5

CS₂ H₂S

(TJ36-79) "

" CS₂ H₂S

0.226 2.354

6

1000m

5.1.2

1	1		27000m ³ /d
1			8000m ³ /d
		19000m ³ /d	10 /
		15300m ³ /d	
23300m ³ /d	1		
2	2004	2007	2
	35000m ³ /d	3	
	21230m ³ /d	2	
13770m ³ /d		13056m ³ /d	2
3		20km	
4			
		8000m ³	

GB8978-1996

5. 1. 3

(GB12348 2008) 3

(GB12348 2008) 3

200m

120m

5. 1. 4

5. 1. 5

5. 1. 6

2011

2013

"

"

50.78m³/t

50~70 m³/t

44.56m³

(GB8978-1996)

300m³/t(

)

5.1.7

SO₂

142.16t/a NO_x 222.16t/a COD 430.85t/a NH₃-N 2.16t/a

5.1.8

5.1.9

10

5. 1. 10

2 130t/h

5. 2

90.5%
 +
 97.5%
 GB14544-93
 150
 +SNCR
 +
 99.8%
 95%
 50%
 GB13223-2011
 120
 GB14544-93
 1
 1000
 "
 "
 + +
 GB8978-1996
 20km
 GB18579-2001
 HJ 2025-2012

GB12348-2008 3

6

6.1

1

GB13223- 2011

CS₂ H₂S

(GB14554- 93)

6.1-1

6.1-1

		mg/m ³	kg/h	
		30	/	GB13223- 2011 120m
		100	/	
		100	/	
		0.03	/	
	CS ₂	/	97	(GB14554- 93) (150m)
	H ₂ S	/	21	
		60000		

2

GB16297- 1996

2

(GB14554- 93) 1

6.1-2

6.1-2

		mg/m ³		
	CS ₂	2.0		(GB14554- 93) 1
	H ₂ S	0.03		
		10		
		1.0		
		1.0		GB16297- 1996 2

6.2

(GB8978-1996)

4

6.2-1

6.2-1		
		mg/L (pH)
1	pH	6-9
2	()	50
3	SS	70
4	COD _{Cr}	100
5	BCD ₅	20
6	NH ₃ -N	15
7		10
8		0.5
9		1.0
10		20
11	ZN ²⁺	2.0
12		5.0

(GB8978-1996)

6.3

GB12348-2008

3

6.3-1

6.3-1		dB A
	65	GB12348-2008 3
	55	

6.4

142.16 /

222.16 COD 430.85 / NH₃-N 2.16 /

7

7.1

7.1.1

7.1-1

7.1-1		
	pH () SS CODcr BOD ₅ NH ₃ -N	4 / 2

7.1.2

7.1-1

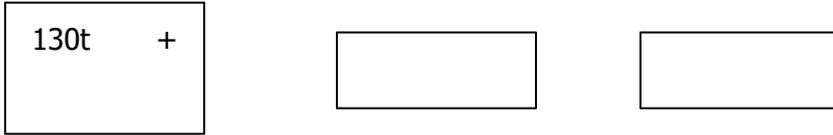
7.1-2 7.1-3

7.1-2

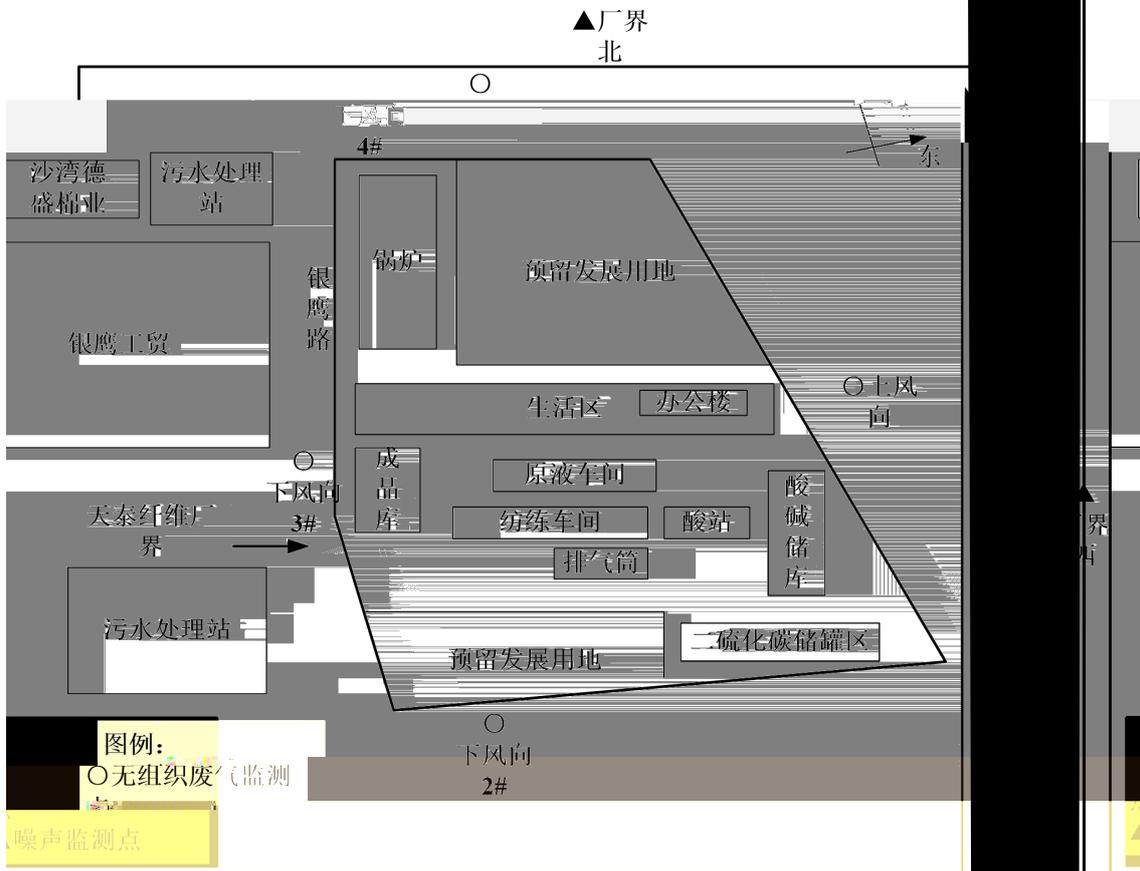
7.1-2		
130t/h		3 / 2
	CS ₂ H ₂ S SO ₂	
	CS ₂ H ₂ S SO ₂	

7.1-3

3	1	CS ₂	4 / 2
---	---	-----------------	-------



7.1-1



7.1-2

7.1.3

7.1-1

7.1-4

	4	A Leq	1 2	

8			HJ 505-2009	0.5mg/L
9			GB 11893-89	0.01mg/L
10			GB 7475-87	0.05mg/L
11			HJ 637-2012	0.04mg/L
			HJ 637-2012	0.04mg/L

8.1.3

8.1-4

8.1-4

GB/T12348-2008

10%

2

1

2

3

4

10%

8.4

1

GB/T16157-1996

1

2

3

7-1

2

3

4

1

2

3

4

5

1

2

8.5

1

2

3

0.5dB A

0.5dB A

4

5

5. 5m/s

9

9.1

9.1-1

9.1-1

				%	h	h
	2018. 10. 20	303t/d	258. 2965t/d	85. 2	24	7920
	2018. 10. 21	303t/d	256. 6069t/d	84. 6	24	7920
	2018. 10. 24	130t/h	119t/h	91. 5	24	7920
	2018. 10. 25	130t/h	126t/h	96. 9	24	7920

9.2

9.2.1

9.2.1.1

87. 5%-99. 9%

9.2.1.2

99. 81%

98. 9%

99. 8%

95%

+SNCR

CS₂

98. 5%

H₂S

99. 3%

90. 5%

97. 5%

9.2.2

9.2.2.1

GB8978-1996

9.2-1

9.2-1

mg/L pH

	pH		SS	COD _{Cr}	pH		mg/L		pH		BCD ₅		
10.20	2.21	2.66	174	672	1.52	0.24	8.4	36	200	0.031	0.436	150	0.645
10.21	2.15	2.48	176	668	1.81	0.48	9.0	30					

9.2-2

	mg/m ³		5178.6	4951.9	5151.7	5012.4	5108.8	4997.3	5178.6	/
			9.7	9.2	9.8	9.4	9.7	9.4	9.8	/
		%	99.81	99.81	99.81	99.81	99.81	99.81	99.81	99.81
SO ₂	mg/m ³		514.6	522.6	525.5	528.4	534.1	537.0	537.0	/
			6	6	9	6	9	9	9	/
		%	98.8	98.6	98.3	98.9	98.3	98.3	98.3	98.9
Ndm ³ /h			232284	232972	230917	234217	232786	232872	234217	/
	mg/m ³		8.0	7.6	7.6	6.3	6.2	6.8	8.0	30
		kg/h	2.00	1.91	1.87	1.62	1.56	1.72	2.00	/
SO ₂	mg/m ³		6	6	8	6	8	8	8	100
		kg/h	1.39	1.40	2.08	1.41	2.10	2.10	2.10	/
NO _x	mg/m ³		24	23	25	22	23	23	25	100
		kg/h	6.04	5.82	6.23	5.62	5.82	5.82	6.04	/
	mg/m ³		0.0082	0.0069	0.0050	0.0081	0.0097	0.0073	0.0097	0.03
		kg/h	0.002	0.002	0.001	0.002	0.002	0.002	0.002	/

9.2-3

Ndm ³ /h			47767	48009	48718	48046	47734	48030	48718	
SO ₂	mg/m ³		34	37	31	29	34	31	37	/
			9	9	6	6	9	6	9	550
	kg/h		0.48	0.46	0.30	0.33	0.49	0.33	0.49	170
	mg/m ³		33.5	30.6	39.1	28.2	27.7	31.7	39.1	/

			0.51	0.87	0.91	0.70	0.86	0.74	0.91	/
		%	98.5	97.2	97.7	97.5	96.9	97.7	98.5	90.5
		kg/h	0.03	0.04	0.05	0.04	0.05	0.04	0.05	97
	mg/m ³		7.83	7.42	7.72	7.38	7.48	7.48	7.83	/
			0.099	0.054	0.076	0.063	0.092	0.102	0.102	/
		%	98.7	99.3	99.0	99.2	98.8	98.6	99.3	97.5
		kg/h	0.005	0.003	0.004	0.003	0.005	0.006	0.006	21
			1318	1318	3090	1318	2291	2291	3090	6000

+SNCR

120m

8mg/m³ SO₂

8mg/m³ NO_x

25mg/m³

0.0097

mg/m³

GB13223-2011

3090

GB14554-93

150m

H₂S

0.006 kg/h CS₂

0.05kg/h

GB14554-93

SO₂

141mg/m³ 0.05kg/h

GB16297 1996

2

9.2-4 9.2-6

.79	.764	9.2-4			1			mg/m ³			
		1#	2#	3#	1#	2#	3#	1#	2#	3#	
0.765	0.739	0.722	0.797	<0.005	0.012	0.009	<0.005	0.569	0.992	0.796	0.959
0.570	0.820	0.767	0.749	<0.005	0.006	0.009	0.011	0.592	0.795	0.844	0.944
0.765	0.781	0.746	0.781	<0.005	<0.005				0.7005		

9.2-5

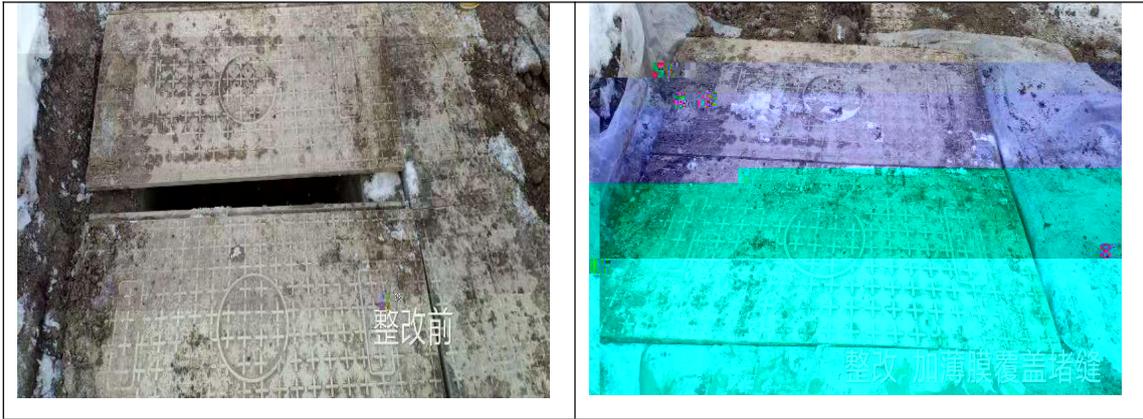
2

mg/m³

9.2-6

3

	1#	2#	3#
	<10	<10	<10
	<10	<10	100



2

6

3

3

GB14554-93 1

9.2.2.3

9.2-7

9.2-7				dB A			
10.24	10.25			10.24	10.25		
		65		47	47	55	
				48	48		
				47	49		

51 56dB A

47 49dB A

GB12348-2008 3

9.2.2.4

10

7920

SO₂ NO_x

20.51t/a 47.84t/a SO₂ NO_x

COD NH₃-N

80.91t/a 0.51t/a COD

NH₃-N

9.2-8

9.2-8		t/a		
		10 t/a	10 t/a	10 t/a
SO ₂	376.99	142.16	20.51	142.16
NO _x	511.47	222.16	47.84	222.16
COD	234.11	430.85	80.91	430.85
NH ₃ -N	1.17	2.16	0.51	2.16

7920h

10

10.1

10.2

30

10.3

1

2

3

4

5

6

10.4

10.4-1

10.4-1

10.4-1		
		26
		4
		0
		28
		2

			0
			30
			0
			0
			0
			30
			27
			3
			0
			30
			0
			0
			30
			0
			0
			30
			0
			0
			0
			30
			28
			2
			0

1

2

3

30

28

2

10.5

11

11.1

11.1.1

1

87.5%-99.9%

2

99.81%

98.9%

99.8%

95%

+SNCR

CS₂

98.5%

H₂S

99.3%

90.5%

97.5%

11.1.2

11.1.2.1

GB8978-1996

11.1.2.2

1

+SNCR

120m

10

7920

SO₂ NO_x

20.51t/a

47.84t/a SO₂ NO_x

COD NH₃-N

80.91t/a 0.51t/a COD NH₃-N

11.1.2.5

4656t/a

11.2

11.3

11.4

1

"

"

2

3

"

"

10

2811

/ 85° 54 1.16
E
44° 38 0.26 N

10 /

10 /

2016.6

[2015] 309
2018.8

/

/

80%

112188
133496

12030
12195.68

%
%

10.19
9.14

4901.7

6945.48

10

130.5

/

116

16000m³/d

160000m³/h

7920h

91654223697818194A

2018.10.23

(1)	(2)	(3)	(4)	(5)	(6)	(7)	"	(8)	(9)	(10)	(11)	(12)
234.11	18	100	80.91		80.91		"		315.02			80.91
1.17	0.076	15	0.51		0.51		"		1.68			0.51
376.99	8	100	20.51		20.51		"		393.62			20.51
511.47	22	100	47.84		47.84		"		559.31			

