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1.1.1 4
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1.1.5 7
1.1.6 8
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1.1.8 9
1.2 9
1.2.1 9
1.2.2 10
1.3 10
1.4 12
1.4.1 12
1.4.2 13
1.4.3 13
1.5 18
1.6 19
1.6.1 19
1.6.2 20

2 24

2.1 24
2.1.1 24
2.1.2 24
2.1.3 25
2.2 26
2.2.1 26
2.2.2 ..... - 32 -
2.2.3 42
2.2.4 46
2.2.4 47
2.2.5 49
2.3 53
2.4 64

3 65

3.1 65

4 69

4.1 69
4.2 76
5 79
5.1 79
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5.2.2 80
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5.3.1 80
5.3.2 81
5.4 81
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5.4 84
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6.3.2 94
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7.2 95
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7.4.4 103

7.4 104
7.4.1 104
7.4.2 104
8 106
8.1 106
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8.1.2 107
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8.2 107
8.3 107
8.3.1 107
8.3.2 108
8.3.3 112
8.4 120
8.4.1 120
8.4.2 120
9 121
9.1 121
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9.2.2 123
9.3 124
9.3.1 124
9.3.2 124
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10.2 125
10.2.1 125
10.2.2 127
10.3 129
10.3.1 129
11 131
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11.1.2 132
11.1.3 132
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11.1.5 133
11.2 135
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11.2.2 136

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11.3.1 136
11.3.2 137
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11.3.4 138
11.3.5 141
11.4 142
11.4.1 “ ” 142
11.4.2 “ ” 143
11.4.3 145
11.4.4 148
11.5 154
11.5.1 154
11.5.2 156
11.6 156
11.7 157
11.7.1 157
11.7.2 159
11.8 165
11.8.1 165
11.8.2 166
11.8.3 170
11.8.4 170
11.8.5 173
11.9 173
11.9.1 173
11.9.2 174
11.9.3 175
11.10 188
11.10.1 188
11.10.2 188
11.10.3 “ ” 188
11.10.4 188
11.10.5 189
11.10.6 189
11.10.7 189
12 190
12.1 190
12.2 190
12.2.1 190
12.2.2 190
12.2.3 190
12.3 191

13 192

13.1 192
13.1.1 192
13.1.2 192
13.1.2 “ ” 194
13.2 194
13.2.1 194
13.2.2 194
13.3 195
13.4 195
13.4.1 195
13.4.2 196
13.4.3 198

14 200

14.1 200
14.2 201

15 202

15.1 202
15.2 202
15.3 204

16 206

16.1 206
16.2 206
16.2.1 206
16.2.2 206
16.2.3 207
16.2.4 207
16.2.5 208
16.2.6 208
16.2.7 208
16.3 208
16.4 209
16.5 209
16.6 209
16.7 209

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3-3 5km

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14 2024

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18-1

2025

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18-3

18-4

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2015

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2021 6

2021 8 24

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510000-20230113-005326

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[2023]402

18 / 70 /

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70 /

2024 8 19

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[2024]99

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70 / 2024 9

70 /

2025 7

3.

70

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1.1

1.1.1

1 2015.1.1

2 2018.12.29

3 2018.1.1

4 2018.10.26

5 2021.12.24

6 2020.9.1

7 2019.1.1

8 2016.7.2

9 2019.12.28

10 2019.8.26

11 2022.12.30

12 2010.12.25

13 2023.12.1

14 2012.7.1

15 2021.3.1

16 2016.2.6

17 2017.10.7

1.1.3

1 682 2017.7.16

2 [2000]38 2000.11.26

3 [2005]39

2005.12.3

4 645 2013.12.7

5 785 2024.6.22

6 [2013]37 2013.9.10

7 [2015]17 2015.4.16

[2016]31 2016.5.28

“ ” [2021]33

20 .24

10 [2005]22 2005.7.2

11 [2005]39

2005.12.

12 [2011]12

2011.5.10

13

2021.10.19

14

2019.7.23

15 588 2011.1.8

16 592 2011.3.5

17 [2010]46

18 2015

61

19 [2008]92

20 [2007]165

21 [2007]163

22 2011-2030 [2010]106

1.1.4

1 2021

16 2021.1.1

2 2024

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[2012]77 2012.7.3

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5 2025

6 3 2018.8.1

7

[2016]150 2016.10.26

8 [2005]109 2005.9.7

9 [2018]22

2018.4.17

10 2016

2016 31 2016.6.30

11 “ ” 2013

21 2013.12.30

12 2016-2020

[2016]319 2016.9.29

13

[2017]88 2017.7.13

14 [2022]17

15 HJ942-2018

16

[2018]265 2018.12.10

17

[2023]1 2023.1.3

18 23

2022.1.1

19 VOCs 2013 31

2013.5.24

20

[2019]1 2019.1.3

21 2021

3 2021.2.5

22 2021

15 2021.9.7

23

11 2022.1.17

17 < > 2012.7.27

12

[2021]71

13

14 2021~2025

1.1.6

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3 C510000201012512009373 2

2023.10

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[2024]20

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2024

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[2009]43 2009.2

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[2009]43 2009.2

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[2011]30 2011.8

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[2013]199 2013.12

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[2015]7 2015.10

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2023.1

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91513424213202423W001W 2025.4

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2025.8

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GPS RS GIS

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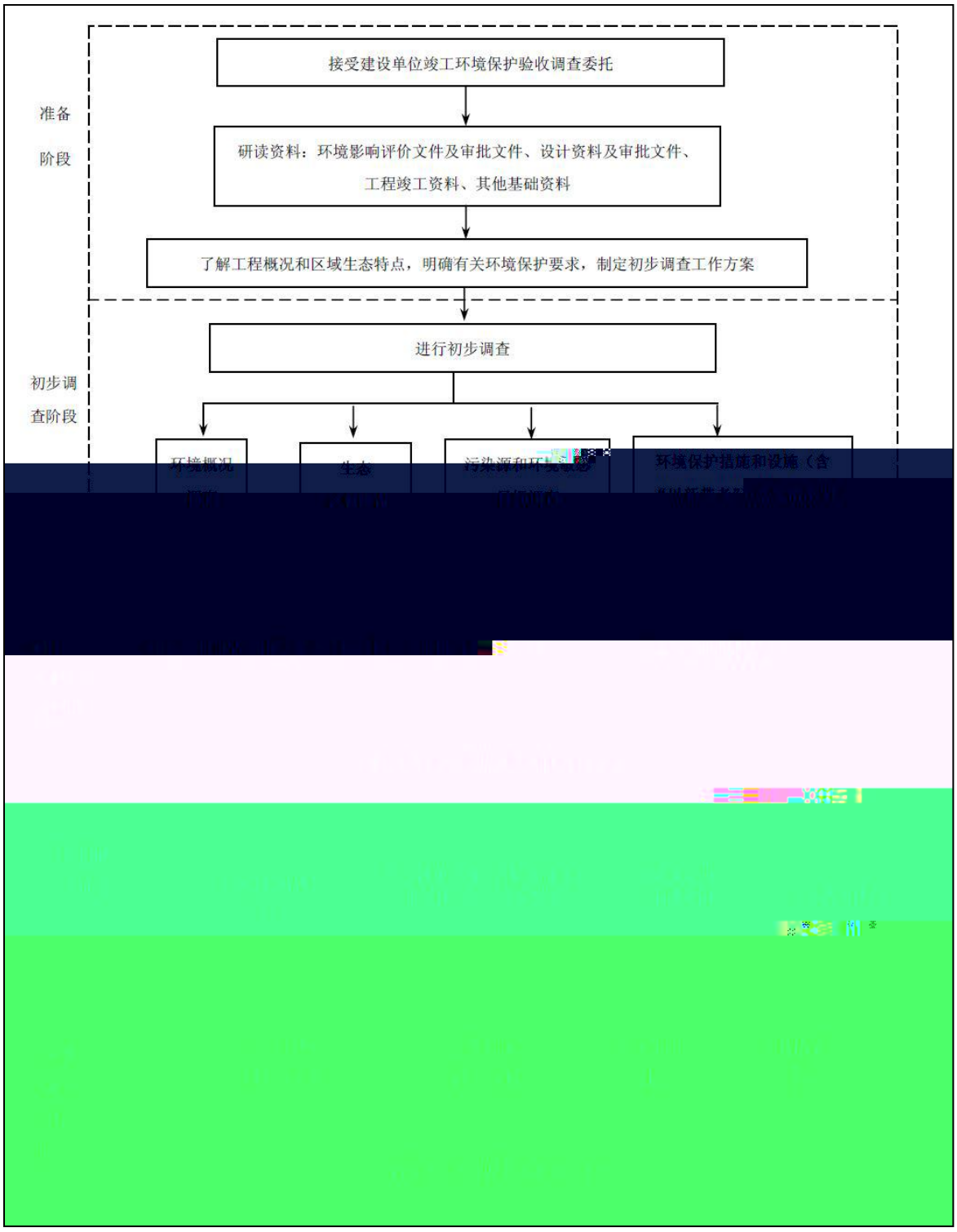

准备
阶段
接受建设单位竣工环境保护验收调查委托
研读资料：环境影响评价文件及审批文件、设计资料及审批文件、
工程竣工资料、其他基础资料
了解工程概况和区域生态特点，明确有关环境保护要求，制定初步调查工作方案
初步调
查阶段
进行初步调查
环境概况
生态
污染源和环境
环境保护措施和设施（含

1.3-1

1.4

1.4.1

70

/

1.4.2

1.4-1

	5km	
	200m	
	/	
	2km 1km	

1.4.3

1.4.3.1

2024 4

1.4-2

		GB3095-2012	/	GB3095-2012 2018
		HJ2.2-2018 D	/	HJ2.2-2018 D

		GB3838-2002	/	GB3838-2002
		GB/T14848-2017	/	GB/T14848-2017
		GB3096-2008 2	/	GB3096-2008 2
		GB15618-2018 GB36600-2018 DB/2978-2023	/	GB15618-2018 GB36600-2018 DB/2978-2023
		GB26451-2011 5 6	/	GB26451-2011 5 6
		DB51/2377-2017 3 5	/	DB51/2377-2017 3 5
		GB16297-1996 2	/	GB16297-1996 2
		GB37822-2019	/	GB37822-2019
		GB12523-2011	/	GB12523-2011
		(GB12348-2008)2	/	(GB12348-2008)2
		GB18599-2020	/	GB18599-2020
		GB18597-2023	/	GB18597-2023

1

GB3095-2012

HJ2.2-2018 D

1.4-3 / ^{3}

	24	**1**		
SO_2	150	500	60	GB3095-2012
NO_2	80	200	40	
CO	4000	10000	/	
O_3	160 8	200	/	
PM_{10}	150	/	70	

$PM_{2.5}$	75	/	35	
TSP	300	/	200	
	/	/	0.5	
	/	/	0.005	
	/	/	0.05	
	/	/	0.006	
	7.0	20	/	
TVOC	/	/	600 8h	HJ2.2-2018
H_2SO_4	/	300	/	D

GB3838-2002

1.4-4 GB3838-2002

pH	6~9	TN	≤1.0
DO	≥5		≤0.05
CODcr	≤20		≤0.005
TP	≤0.2		≤1.0
BOD_5	≤4		≤1.0
	≤0.05		≤0.05
	≤0.005		≤0.0001

0 ę 0

	≤0.01		≤0.0001
	≤0.005		

2 GB3096-2008

2 60 50

GB15618-2018

GB36600-2018

DB/2978-2023

1.4-6

pH		pH≤5.5	5.5 pH≤6.5	6.5 pH≤7.5	pH 7.5
	≤	0.3	0.4	0.6	0.8
	≤	0.3	0.3	0.3	0.6
	≤	0.5	0.5	0.6	1.0
	≤	1.3	1.8	2.4	3.4
	≤	30	30	25	20
	≤	40	40	30	25
	≤	80	100	140	240
	≤	70	90	120	170
	≤	250	250	300	350
	≤	150	150	200	250
	≤	150	150	200	200
	≤	50	50	100	100
≤		60	70	100	190
≤		200	200	250	300
		60	1,2,3-		0.5
		65			0.43
		5.7			4
		18000			270
		800	1,2-		560
		38	1,4-		20
		900			28
		2.8			1290
		0.9			1200
		37	+		570
1,1-		9			640
1,2-		5			76
1,1-		66			260
-1,2-		596	2-		2256
-1,2-		54	[a]		15

	616	[a]	1.5
1,2-	5	[b]	15
1,1,1,2-	10	[k]	151
1,1,2,2-	6.8		1293
	53	[a h]	1.5
1,1,1-	840	[1,2,3-cd]	15
1,1,2-	2.8		70
	2.8		4500
	180		8660
	4.5		16022
	2882		2127
	13655		2116

2

DB51/2682-2020

GB26451-2011 5 6 VOCs

DB51/2377-2017 3 5

GB16297-1996 2

GB37822-2019

1.4-7 / 3

TSP		/ /	900	15min
			350	

1.4-8 / 3

1			50	
2			45	
3		/	1.0	
4		/	1.2	
5		m^3/t	300	

1.4-9

	mg/m^3	m	kg/h	mg/m^3	

VOCs	60	15	3.4	2.0	DB51/2377-2017
Pb	0.7	15	0.004	0.006	GB16297-1996 2

1.4-10 VOC / 3

NMHC	10	1h	
	30		

GB12523-2011

70 55

GB12348-2008 2 60 50

3

GB18599-2020

GB18597-2023

1.5

1

2

3

4

5

6

1.5-1

1.6

1.6.1

135m 52m

20

85m 40

315m 3

GB3838-2002

2

GB3095-2012

3

GB3096-2008 2

4

GB/T148-2017

5

6

1.6-1

1		E101°57′22.67924″ N27°12′5.89317″		3			315m
2		E101°57′18.70099″ N27°12′4.73445″		34 100			363m
3	2#	E101°56′58.98104″ N27°12′15.22188″		6 20			780m
4		E101°56′59.01857″ N27°12′15.19852″		2 3			20m
5	1#	E101°56′57.04269″ N27°12′5.32346″		6 20			310m
6	4#	E101°55′57.98688″ N27°11′57.52145″		7 35			1658m

7		E101°56′55.54243″ N27°12′16.80141″		6 15			28m
8	3#	E101°55′59.93739″ N27°12′52.07759″		3 10			1785m

1.6-2

			/			
1		E101°56′59.01857″ N27°12′15.19852″	20m		2	+ 1F
2		E101°56′55.54243″ N27°12′16.80141″	28m			+ 1F

1.6-3

			50m	GB3838-2002	
			305m		
			6.8km		
		1km		GB15618-2018 GB36600-2018	/
					/
					/
		8.1km^2		GB/T14848-2017	/

1.6-4

			3		315m
			34 100		363m
	2#		6 20		780m
			2 3		20m
	1#		6 20		310m
	6#		2 5		2770m
	4#		7 35		1658m
	5#		6 20		2715m
			6 15		28m
	3#		3 10		1785m
500m			231		
5km			1		
E			**E3**		
				24	/
	/	/		/	

	E			**E2**	
					/
	/	G3		D2	/
	E			**E3**	

1.6-5

	1		2022 0001514	
	2			
	3			
	4			
	5			
	6		28	
	7		3 VU 2 5	
	8			

2

2.1

2.1

1

101°54'~102°29'　　27°05'~27°36'

2284km^2

225°　　*f* I *f*

5				2024.9
6			2024	2025.2
7		/	91513424213202423W001W	2025.4
8			70 /	2025.6
9				2025.7

2.1.3

1

70 /

22403

70 t/a 70 t/a

5 1 1

0.1496km^2

70.48

18

/ 70 /

330d/a 2 8 / 2 8 /

3 8 /

118 180 178

2

1

70 t

800mm REO3.52% 2.2%
2.35%

REO 3.52%

2.2% 2.35% 2.35%

2

65% 45%

2.1-2

		/			
1	65%	10700	0.5%	REO 65%	/
2	45%	6800	0.5%	REO 45%	
3	45%	2700	0.5%	REO 45%	
4		500	15%	Pb 40%	/
5		35500	15%	CaF_2 90%	
6		64800	15%	SrO+BaO 45%	

2.1-3

		/			
1	65%	15215	0.5%	REO 65%	/
2	45%	10000	0.5%	REO 45%	
3		500	15%	Pb 40%	
4		35500	15%	CaF_2 90%	

2.2

2.2.1

2.2-1

			70 ta 5 2035m 10m 10m 5m 8m 2			
			70 t/a			
			1F 70 2 1			
			1F 1 1 49			
			1F 1 21			
			1260m^2 3 2 70 /			
			630m^2 3 70 /			
		/	1F 1026m^2 65 45			
			1F 330m^2 3			
			1F 630m^2 3			
			234m^2			
			1F 900m^2			
			1F 300m^2			

				1F 2430m^2		
				1 Φ25m		
				5240m^2		20m 2 100m
				2 394m^3		
				1 240m^2 1		
				1		
				630m^2		
				1F 504m^2		
				600m^2		
				648m^2		
				2 17t Φ2.32m H=5.66m 8t Φ1.92m H=4.03m		
				3 47t Φ5.7m H=2.6m 60t Φ6.15m H=2.8m 50t Φ6.2m H=2.4m		

			108m² 1 36t 98% Φ2.3m H=5.5m		
			1 168m²		
			1 1F 280m²		
			1 1F 200m²		
	35kV		1 1F 450m²		
			2200m³		
			2200m³		
			35kV		
			4 400m³ 1 100m³ 1 100m³ 1 100m³		
			1 10m³		
			1 50m³/d		
		1#	6.0m×2.5m×2.5m 30m³		
		2#	9m×3.0m×3.0m 65m³		
		3#	3.7m×3.05m×1.8m 15m³		
		4#	L B H=5.8m×2.7m×1.13m 15m³		
		5#	L B H=3.0m×3.22m×6.2m 50m³	**128** ³	
		6#	15m×10m×7.5m 1000m³	**108** ³	
			1 75m³ 45m³ 1 6m³		
			2 350m³		
			1 10m×7m×5m 350m³		
			1 1500m³	**3000** ³	

2.2.2

2.2.2.1

2085m 2085m~2035m

10m 10m 2175m 2165m

2155m 2145m

2135m 2125m 2155

2115 2095m

2105 2105 2085m~2035m

2085m

2320m

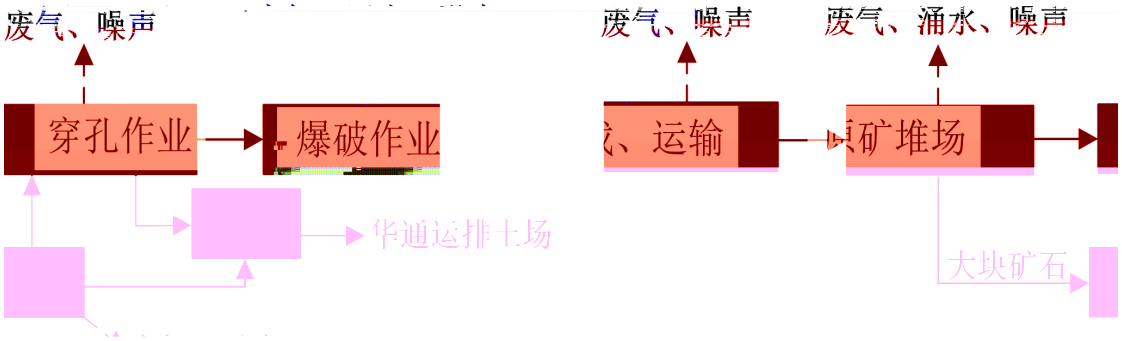
1996m 324m

1996m

2035m 2085m

5.0km

2120m 2.0km



2.2-1

→ →

22t

2.2.2.2

70 t/a

/

18 t/a 70 t/a 52 t/a

65% 45%

45%

70 t/a /

	35500	5.2	0.9	90	1.8	5.93	29.3	0.78
	64800	9.5	0.9	10	45	10.83	5.94	35.63
	579000	84.9	0.56	12.2	8.94	60.18	64.7	63.25
	682000	100	0.79	16	12	99.48	100	99.99

2

2.2-4

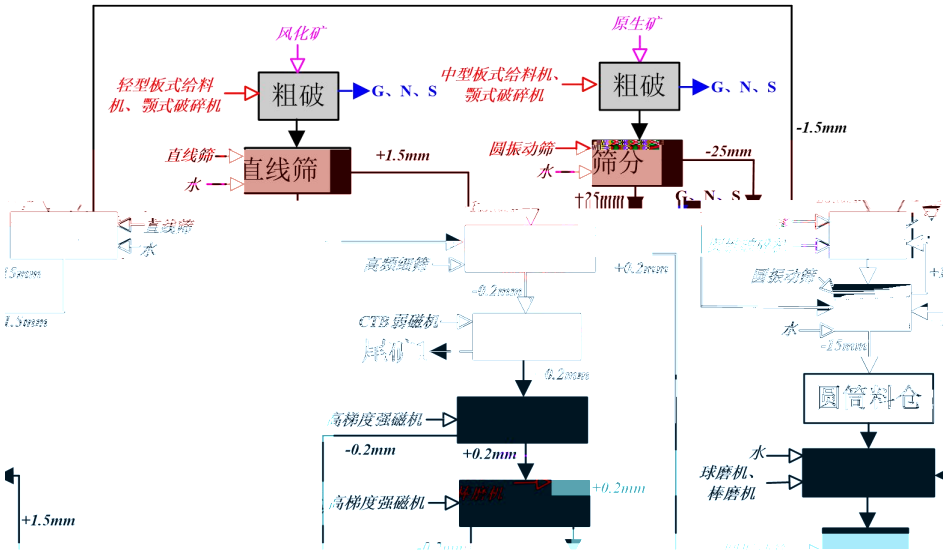
	/	%	%		%	
			P	REO	P	REO
	500	0.07	40	0.7	14.29	0.02
65	15215	2.17	0.35	65	3.8	60
45	10000	1.43	0.1	45	0.71	27
	674285	96.33	0.17	0.31	81.87	12.7
	700000	100	0.2	2.35	100	100

2.2-5

	/	%	%	%
			C F_2	C F_2
	35500	5.26	90	29.6
	638785	94.74	11.9	70.4
	674285	100	16	100

18 t/a 70

t/a



2.2-2

1

1

1#

>25mm

>1.5mm

<1.5mm <25mm

>1.5mm

<1.5mm

2

>1.5mm

<1.5mm

2

>0.2mm

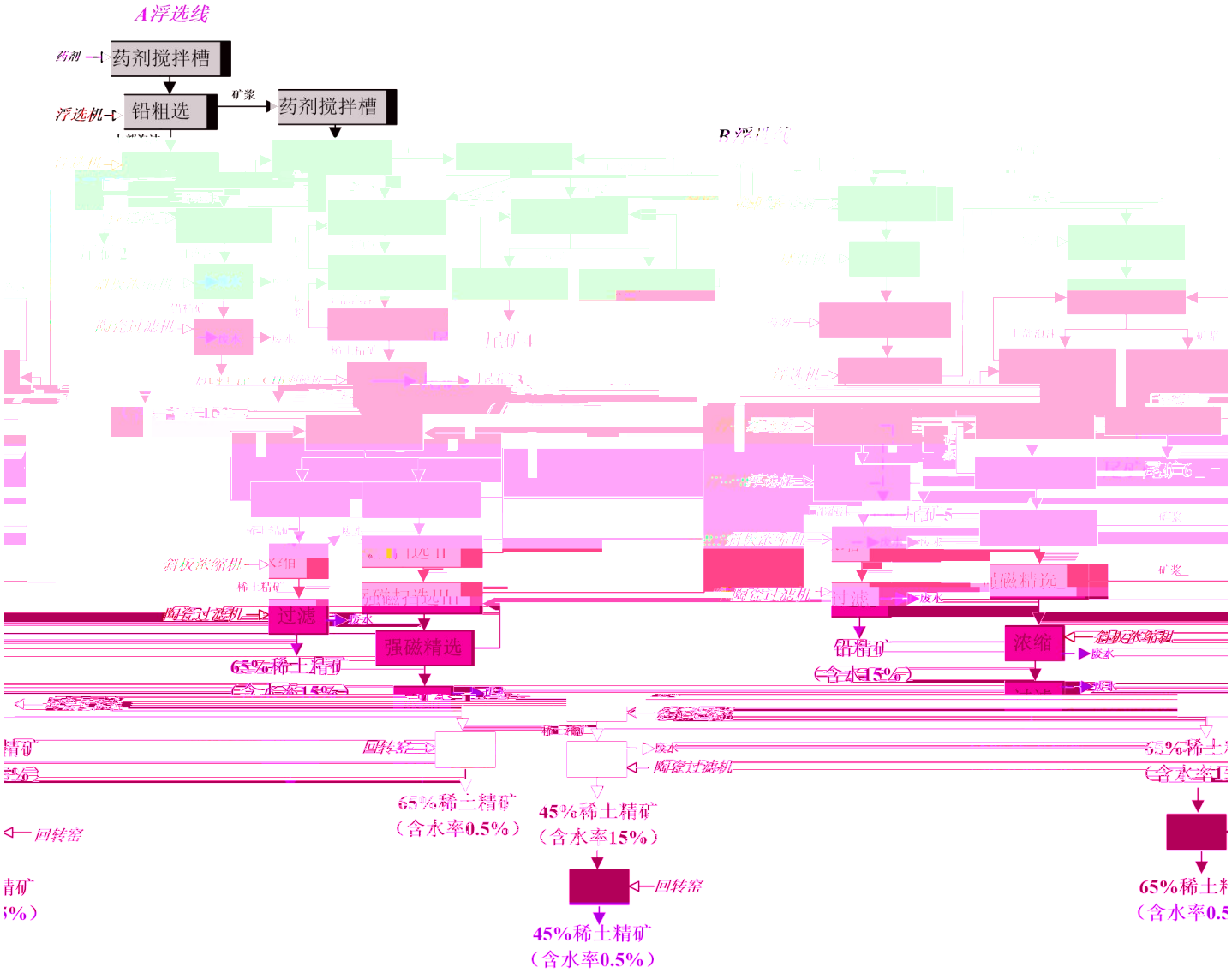
<0.2mm CTB 1

B

<0.2mm

>0.2mm

A **B**


A浮选线
药剂
药剂搅拌槽
浮选机
铅粗选
矿浆
药剂搅拌槽
过滤
废水
强磁精选
65%稀土精矿
（含水率15%）
回转窑
65%稀土精矿
（含水率0.5%）
45%稀土精矿
（含水率15%）
回转窑
45%稀土精矿
（含水率0.5%）
过滤
废水
强磁精选
铅精矿
（含水15%）
浓缩
废水
回转窑
%）

2

A B

1 A

2

15% 2

CTB

3 4

65% 15%

65% 300

1h 0.5%

45%

15% 45%

300 1h

0.5% **B**

2 B

B

5 15%

5

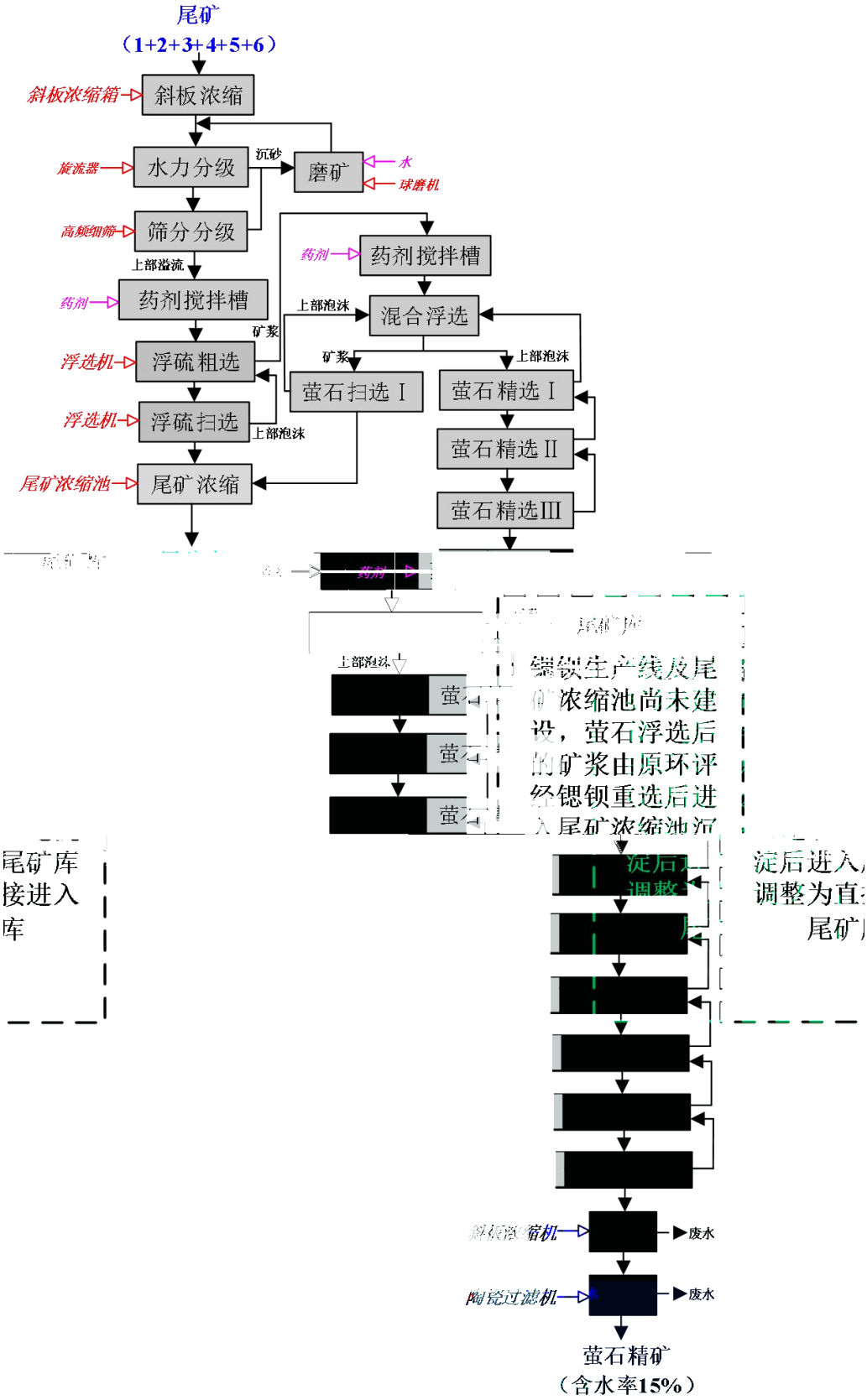
6

65%

15%

300 1h 0.5%

3


尾矿
（1+2+3+4+5+6）
斜板浓缩箱
斜板浓缩
旋流器
水力分级
沉砂
磨矿
水
球磨机
高频细筛
筛分分级
上部溢流
药剂
药剂搅拌槽
药剂
药剂搅拌槽
上部泡沫
混合浮选
矿浆
浮选机
浮硫粗选
矿浆
上部泡沫
萤石扫选 I
萤石精选 I
浮选机
浮硫扫选
上部泡沫
萤石精选 II
尾矿浓缩池
尾矿浓缩
萤石精选III
药剂
上部泡沫
萤石
萤石
萤石
锶钡生产线及尾矿浓缩池尚未建设，萤石浮选后的矿浆由原环评经锶钡重选后进入尾矿浓缩池沉
尾矿库
接进入
库
淀后进入
调整为直
尾矿
斜板浓缩机
废水
陶瓷过滤机
废水
萤石精矿
（含水率15%）

2.2-4

15%

1 900mφ325mm PE

φ325PC L0.78km C20

400×600mm L1.45km

5 700m^2

1000m^3

2 1.8km φ219mm

1 210m^3/h

2 1 1

2.2.3

2.2.3.1

2.2-2 /

1		TY370GN 120mm	3	/	
2	·	XAXS600	3	/	
3		PC360 1.7m^3	3	/	
4		SK260 1.3m^3	3	/	
5		LX450	1	/	
6		50CN	2	/	
7		30	1	/	
8		20	1	/	
9		360	1	/	
10		EDT3200F	1	/	
11	22t	22t	10		
12		15t	4		
13		15t	3		
14		15t	4		
15		16t	1		
16		16t	3		
17		ZL-50	3		
18		ZL-30	1		
19		300	1		
20		22t	1	/	
21		12t	1	/	
22		Φ5.7m H=2.6m 66m^3 47t	1		
23		Φ6.15m H=2.8m 83m^3 60t	1		
24		Φ6.2m H=2.4m 72m^3 50t	1		

2.2.3.2

2.2-3

1		1200×4500	1		
2		PE900×1200	1		
3	1#	B=800mm L=30m	1		
4		CC200	2		
5	2#	B=800mm L=31m	1		
6	3#	B=800mm L=60m	1		
1		1000×4500	1		
2		PE900×1200	1		
3	4#	B=650mm L=9m	1		
4	5#	B=650mm L=17m	1		
5	6#	B=650mm L=15m	1		
6	7#	B=650mm L=16m	1		
7	8#	B=650mm L=7m	1		
1		1845	1		
2		ZK1445	1		
3		1845	1		
4		ZK1848	1		
5		/	4		
1		Φ6m H=7m	2		
2		900×900	6		
3	9#	B=650mm L=14m	1		
4	10#	B=650mm L=24m	1		
5		MQG2400×3000	1		
6		MQG2400×3000	2		
7		2ZK246	1		
8		/	4		
9		2ZK246	1		
10		FG15	1		
11		φ2400×3600	1		
12		φ2400×3600	2		
13		FX250-GX-10*6	1		
14		FX200-PU*4	1		

15		KMLZ-500/55	1		
1		CTB1024	1		
2		SLon-2500 1.2T	2		
3		CTB918	1		
4		SLon-1500 1.2T	1		
5		SLon-1250 1.2T	1		
6		SLon-1500 1.2T	1		
7		SLon-1500 1.2T	1		
8		SLon-2500 1.2T	1		
9		SLon-1500 1.2T	1		
10		SLon-1000 1.2T	1		
11		SLon-1000 1.2T	1		
	/				
5.1	**A**				
1		Φ2500×2500	1		
2		BF-6	4		
3		BF-1.2	2		
4		BF-1.2	2		
5		Φ2500×3000	2		
6		BF-6.0	5		
7		BF-4.0	4		
8		BF-4.0	3		
9		BF-4.0	2		
10		BF-6.0	2		
11		BF-6.0	3		
12		BF-6.0	2		
13		BF-4.0	3		
5.2	**B**				
1		KMLZ-500/55	1		
2		φ2400×3000	1		
3		Φ2500×2500	1		
4		BF-6	4		
5		BF-1.2	2		
6		BF-1.2	2		
7		Φ2500×3000	1		
8		BF-4.0	5		
9		BF-4.0	4		
10		BF-4.0	3		
11		BF-2.8	2		
12		BF-4.0	4		
13		BF-4.0	6		

1		KMLZ-100/55	1	45	
2		TC-12m^2	1	45	
3		KMLZ-100/55	1	65	
4		KMLZ-100/55	1	65	
5		TC-12m^2	1	65	
6		KMLZ-100/55	1		
7		TC-12m^2	1		
1		Φ1.5m×16m	1	65	
2		Φ0.8m×24m	1	65	
3		Φ0.8m×24m	1	45	
1		Φ2.32m H=5.66m 24m^3 17t	1		
2		Φ1.92m H=4.03m 12m^3 8t	1		
3	1#	6m×2.5m×2.5m 30m^3	1		
4	2#	9m×3m×3m 65m^3	1		
5	3#	3.7m×3.05m×1.8m 15m^3	1		
6	4#	5.8m×2.7m×1.13m 15m^3	1		
7	5#	3m×3.22m×6.2m 50m^3	1		
8	6#	15.0m×10.0m×7.5m 1000m^3	1		
1		/	1		
2		/	1		
3		/	1		
4		/	1		

2.2-4

1		2000m^2	1		
2		FX350×6	1		
3		φ2400×3600	1		
4		1216	4		
1		φ3.0m×3m	1		
2		BF-10.0	8		
3		φ3.0m×3m	2		
4		BF-10.0	11		
5		BF-4.0	24		
6		BF-8.0	15		
7		Φ3.0m×3.0m	1		
8		50m^2	1		

9		10m^2	1		
10		B=650mm L=15m	1		
11		Φ2.3m H=5.5m	1		
12		φ25m	1		

2.2.4

2.2.4.1

2.2-5

		498t/a			157t		/
		65t/a			5t		/
		2.1t/a			0.2t		/
		2.2t/a			0.2t		/
		292.5t/a	/	/	/		/
		1463	/	/	/		/
		36.4	/	/	/		

2.2.4.2

2.2-6

		70 t/a	/	/		5%
		210t/a				
	NaOH	350t/a				/
	2#	21t/a				ROH R-
	H_2O_5	1400t/a				1_ _2_
		1304t/a				/
		652t/a				/
	MYS	326t/a				/
		294t/a				

	SSB					50%
		49t/a				/
	DC-2	294t/a				/
	MS	49t/a				/
	98%	326t/a				/
		50L/a		AR 5L/		
		0.4t/a		AR 500g/		
		0.4t/a		/		
		50L/a		AR 5L/		
		50L/a		AR 5L/		
		0.2t/a		AR 500g/		
		0.05t/a		AR 500g/		
		0.05t/a		AR 500g/		
		0.05t/a		AR 500g/		
		120t/a				/
		2714.43	/	/		
		593.23	/	/		

2.2.4

2.2.4.1

1

2200m^3

2

2.2.4.2

1 35kV 35kV

2.2.4.3

1

1 2 6m 7m 394m^3

8h

2 5240m^2

3.5m 18000t 8

2

1 63/ ⁄ Â

2 24m^3 2.32m 5.66m
17t 12m^3 1.92m 4.03m 8t

2.2.4.4

1 1F

2.2.4.5

1 1F REO
1

2.2.5

22403 329.8 1.5%
710.3 3.17%

2.2-7

			2 10m³	2.0	2.0	
			4 100m³	/	/	
				3.2	3.2	
				/	/	
				/	/	
				5.0	5.0	
				2.0	2.0	
				/	/	
				/	/	
			1 50m³	15.0	15.0	
			4 100m³ 2 1	/	/	/
			1	1.0	1.0	
			2 4m³ 2325 2185	3.5	3.5	
			4 2125 1 160m³ 1 90m³ 1 120m³ 2035m 10m×7m×5m 350m³	12.0	12.0	
			9 1# 30m³ 2# 65m³ 3# 15m³ 4# 15m³ 5# 128m³ 6# 108m³ 1 75m³ 45m³	5.0	5.0	

			1 6m³			
			2 2 350m³	/	/	/
				/	/	/
				/	/	/
				15.0	**10.0**	
			+1 + +1 15m	**50.0**	**52.0**	
			+1 +1 15m	**20.0**	**32.0**	
			+1 + +1 15m	26.8	26.8	
			2 +1 + +1 15m	8.0	8.0	
				2.0	2.0	
			2 1			
				0.8	0.8	
				/	/	/
				/	/	/
				/	/	/
				8.0	8.0	
			1 108m²	10.0	10.0	
				/	/	/
				/	/	/

		1 350m^3		**45.0**	**415.5**	
		1 1500m^3				
				/	/	/
			Mb≥6.0m K≤1×10^{-7}cm/s	23.0	23.0	
			+2mm HDPE +	5.0	5.0	
			Mb≥1.5m K≤1×10^{-7}cm/s	7.5	7.5	
				/	/	/
		2		5.0	5.0	
		3		10.0	10.0	
				/	/	/
		1 2 3 4 5		**40**	**45.0**	
				329.8	710.3	

2.3

2.3-1

22403	329.8	22403	710.3
		2.2%	2.35%

1 Φ25m

2020 688

2.3-2

	1		
	2 30%		
	3		
	4 10%		
	5		
	6 1 2 3 4 10%	2.072t/a 0.004134t/a VOCs 0.04t/a 5.06%<10%	
	7 10%		
	8 6 10%		
		20m 2 100m	

2			
		+ 1 +	
		1192m^3 1175m^3	
	9		
	10 10%		
	11	2 1	
	12		
	13		

1

10%

70 70

3

5

4

6

10%

2.2% 2.35%

REO 3.52% 2.2%

65% 10700t/a 45% 9500t/a 500t/a 35500t/a 64800t/a

REO 3.52%

2.2% 2.35%

2.35% 65% 15215t/a 45% 10000t/a 500t/a 35500t/a

70

20200t/a 52.54t/a 6.634kg/h 0.136t/a 0.017kg/h VOCs 1.708t/a 0.216kg/h 25215t/a 65.58t/a 8.28kg/h 0.17t/a 0.021kg/h VOCs 2.132t/a 0.269kg/h

2 1 +1 + 1 15m

100%

>99.5% 90%

3000m^3/h

330 3 8h 7920h

2.3-3

			VOC
t/a	65.58	0.17	2.132
kg/h	8.28	0.021	0.269
kg/h	8.239	0.0209	0.242
kg/h	0.041	0.0001	0.027
/	**0.325**	**0.00079**	**0.214**
mg/m³	13.7	0.033	9.0
	50mg/m^3	0.004kg/h 0.7mg/m^3	3.4kg/h 60mg/m^3
1 3 8 7920h 99.5% 90% 3000m^3/h 2 GB26451-2011 5 50mg/m^3 GB16297-1996 2 VOCs DB51/2377-2017 3 VOCs			

	60mg/m^3	3.4kg/h

7 **10%**

5

8 **6**

10%

A

79.135t/a 11.87t/a 0.2% 0.0237t/a

88% 9.496t/a 0.019t/a

2.374t/a 0.0047t/a

20m

2 100m

4.48t/a

0.012t/a 0.000024t/a

$$U_c=P\times \quad 1-C_m \quad \times \quad 1-T_m$$

P t

U_c t

C_m %

2.3-4

1		74%
2		60%
3		88%
4		86%
5		78%

T_m %

2.3-5

1		0
2		99%
3		60%

C_m 86%

T_m 60% 4.48t/a× 1-60% × 1-86% =0.25t/a

0.0005t/a 0.238t/a 0.000476t/a

2

1 + 1

15m

1 +

50%~70% 60% +

1- 1-60% × 1-99.5% =99.8%

99.9% 0.1μm

1

1 15m 1 +

+ 1 15m

+ 1 90%

HJ942-2018 4.5.2.1

HJ1103-2020

C C.1 -

HJ984-2018 F.1 10%

≥90% +

20200t/a 52.54t/a

0.136t/a VOCs 1.708t/a 2 1 +1

+ 1 15m

0.261t/a 0.00071t/a VOCs 0.174t/a

25215t/a

0.325t/a 0.00079t/a VOCs 0.214t/a

2.3-6 /

		11.87	9.496	-2.374
		0.0237	0.019	-0.0047
		0.012	0.25	0.238
		0.000024	0.0005	0.000476
		0.1848	0.1848	0
		0.000528	0.000528	0
		1.205	1.205	0
		0.0024	0.0024	0
	VOCs	0.198	0.198	0
	VOCs	0.221	0.221	0
	VOCs	0.095	0.095	0
		0.0222	0.0222	0
	VOCs	0.102	0.102	0
		0.024	0.024	0
		0.261	0.325	0.064
		0.0007	0.00079	0.00009
	VOCs	0.174	0.214	0.04
		13.5328	11.4608	**-2.072**
		0.027352	0.023218	**-0.004134**
	VOCs	0.79	0.83	**0.04**
		0.0462	0.0462	**0**

2.072t/a 0.004134t/a

VOCs 0.04t/a 5.06%<10%

B

2325m

2185 1 4m^3

2155 1 4m^3 2125

1 90m^3 2035m 1

1 350m^3

6

1175m^3

2

2155 2125 2125 1 160m^3

1 90m^3 1 120m^3

2035m 1 1 350m^3

5# 128m^3 6#

108m^3 3 75m^3 45m^3

6m^3 2 350m^3 1192m^3

2.374t/a 0.238t/a

2.138t/a

9

10

10%

11

2 1

2025 6

12 2025 H128

2025 8 26 ~2025 8 27

2025 03090010

GB12348-2008

2

12

13

1 24m^3

1 3000m^3

4

14m^3

2.2% 2.35%

REO 11230 REO/ 14390 REO/

128.14% 30%

70 / 2.072 / 0.004134 /

VOC 0.04 / 5.06% <10%

REO

VOC 10%

2.4

1

70 t/a 58333.3t

56000t 96%

2

70 t/a

3

2024 1

70 / 2024

8 19

70 / [2024]99

3.1

70 /

0.1496km²

2035m 5

/

50m³/d 6# 1000m³ 350m³

1500m³

“ - - ” “ ”

“ ” 18 / 70 /

65% 87.55% 65% 10700 45%

9500 40% 500 90% 35500 45%

64800

25.7 21.25

22403 329.8

2024

[2023]402

2022]105

“ ”

GB18597-2023

“ + + ”

“ + ” “ +

+ + ” “ + +

+ ”

50m

100m

“ +

”

5

“ ”

[2021]70 “ ”

15

4.1-1

4.1-2

		2365m 2350m 2335m 2280m 2270m 2265m 2245m 2225m 0.4m×0.4m 2325m 2295m 2245m 2205m 2185m 2325m 2185 1 4m³	2365m~2325m 0.6m×0.6m 0.4m 2280~2185 0.4m×0.4m 0.2m 2325m 2185 1 4m³	
		2085m 2155 1 4m³ 2125 1 90m³ 2035m 1 1 350m³	2155 2125 2125 1 160m³ 1 90m³ 1 120m³ 2035m 1 1 350m³	
		3 100m³ 2 1	3 100m³ 2 1	
		1 350m³	1 350m³	

			2 100m	
		2 1 + 1 15m	2 1 + 1 15m 2	
		1 1 15m	1 1 15m	
		1 + + 1 15m	1 + 1 15m	
		3 1 + + 1 15m	3 2 + + 1 15m	
		1	1	

		1 108m^2		

Mb≥6.0m K≤1×10^{-7}cm/s

+2mm HDPE +

4.2

70 /

4.2-1

“ ” GB18597-2023	1 50m^3 GB18597-2023 1 5# 2025 GB12348-2008 2	
“ + + ” “ + ” “ + + + ” “ + + + ” 50m 100m	2 100m 2 + + 1 15m 1 15m + 1 15m + + + ” 1 15m 50m 100m	

10		

5

5.1

2km

1km 2010.29hm^2

5.2

5.2.1

1

56 136 161 6 6 6

2 6 6 48 122 149

26 33

13 18 9 13 3

39.75% 31 Gleicheniaceae Pteridaceae

Phytolaccaceae Caryophyllaceae Gentianaceae

Boraginaceae 19.25%

2

161 107 66.46%

2 1.24% 33 20.50% 19

11.80%

3

3

25 50.00%

11 22.00%

14 28.00%

1 1.27

128 14

24 18.75% 40

31.25% 62

48.44% 2 1.56%

5.2.2

CR EN VU

, 29

5.3

5.3.1

1

12 29 39 1 2 2

1 3 3 7 17 23 3 7 11

1

1 2 2

6 50%

5.3.2

3

,

3

3 3

2020 CR

EN VU 2

2020

5

5

5.4

HJ19-2022

GB/T21010-2017

5.4-1

			%
		21.73	1.08
		37.14	1.85
		1751.77	87.14
		126.33	6.28
		47.11	2.34
		1.03	0.05
		3.11	0.15
		0.36	0.02
		0.65	0.03
		8.98	0.45
		6.29	0.31
		5.57	0.28
		0.22	0.01
		2010.29	100

5.5

5.6

1995 70

/

1

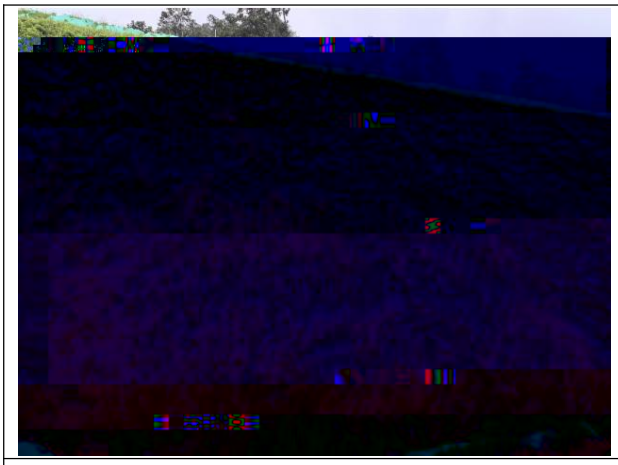
2

3

5.6.1

1

2024 0 7

5.7

5.7.1

8

2024 , 4

7 5 2 2

	
	2350

5.7.2

5.7.3

-

5.8

2024

6

6.1

6.1.1

1

1

T_3bg

0.23 0.74L/s

Pt_1hl

0.1~1L/s

2

5

8

Pt_1hl

15%

1

2 3

6.1.2

GB/T14848-2017

6.1.3

3

1

70 / 3

2024 7 2 ~7 3

6.1-1 H /L

		H																
		6.5 8.5			**/**		**/**	**0.5**	**250**	**250**	**20**	**1.0**	**0.05**	**1.0**	**450**	**1000**	**0.002**	**3.0**
1#		7.2	1.97	8.93	23.9	6.85	ND	129	ND	1.8	39.8	2.22	0.008	ND	0.903	108	255	ND	0.44
	Pi	0.13	/	0.045	/	/	/	/	/	0.0072	0.159	0.111	0.008	/	0.903	0.24	0.255	/	0.147
2#	[redacted]	7.3	3.89	8.48	45.1	14	ND	146	ND	1.27	156	1.47	0.008	ND	**2.67**	184	405	ND	0.28
		0.2	/	0.042	/	/	/	/	/	0.0051	0.624	0.0735	0.008	/	**2.67**	0.409	0.405	/	0.093
3#		7.3	3.03	14.3	27.7	6.29	ND	155	ND	1.74	39.7	1.82	0.008	ND	**2.8**	115	298	ND	0.44
	Pi	0.2	/	0.072	/	/	/	/	/	0.007	0.159	0.091	0.008	/	**2.8**	0.256	0.298	/	0.147

6.1-2 H CFU/ L MPN/100 L /L

	0.05	**0.001**	**0.01**	**0.3**	**0.1**	**0.01**	**0.005**	**3.0**	**100**	**0.02**	**0.05**	**0.002**	**1.0**	**0.02**	**0.01**	**1.0**	**0.7**	**0.0001**	**0.005**
	ND	ND	ND	ND	ND	0.0072	0.0006	2400	30000	0.005	ND	ND	ND	0.00167	ND	ND	0.107	0.00003	#

1#

	Pi	/	/	/	/	0.9	/	0.06	5.7	290	0.35	/	/	/	0.102	/	/	0.187	0.3	0.04

GB/T14848-2017 III

GB/T14848-2017 III

2.67~2.8 1.8

2

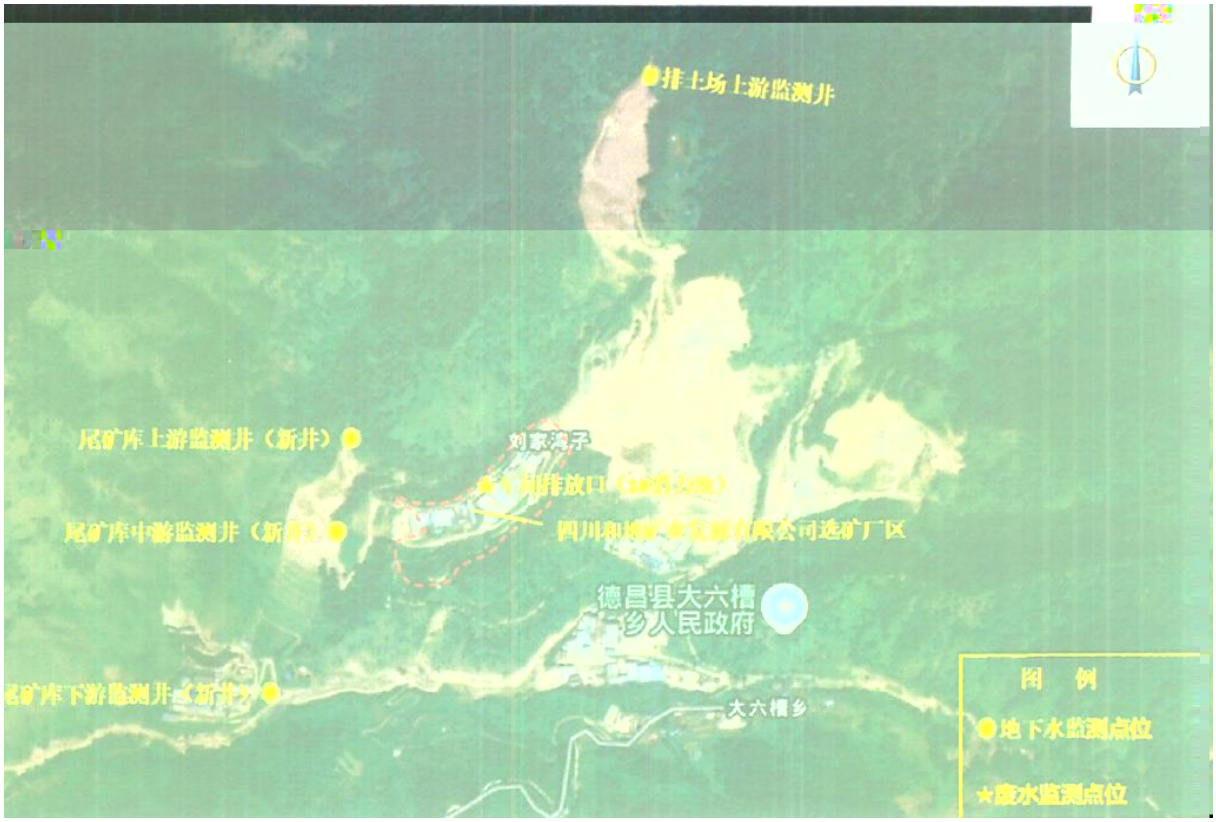
)2025 6 12 13 3

2025) H128

6.1-3 H /L

pH	6.7	6.9	7.2	6.5~8.5
	0.026	0.028	0.036	0.5
		0.00007		0.005
	0.00044	0.00148	0.0003	1.0
	0.00957	0.009	0.00078	0.01
	0.031	0.0125	0.00483	1.0
				0.05
				/
	1.42	**1.69**	**2.28**	**1.0**
				0.01
				0.001
				0.01
	4.8	2.27	0.35	/
	0.02	0.01	0.02	/
				0.002
				0.05
	1.1	1.5	1.2	3.0

GB/T14848-2017



6.1-1

6.2

6.2.1

1

GB/T14847

2

6.2.2

70 /

Mb≥6.0m K≤1×10^{-7}cm/s

2

3

6.3.2

1

2

7

7.1

36.4km 1560m^3/s

12.1m 7.5m/s 103m

19 49

12~13km 58km^2

7.2

7.2.1

2023 2023

34 5 14.7% 26

76.5% 3 8.8%

2.9 8.8

5.9

2023 3 23 24

[2023] H65

4 2023 3 23 ~3 24

7.2-1 /L

	1# **500**	**2#** **1**	**3#** **500**	**4#** **1**

	12.6	12.5	14.7	14.2
pH	8.1	8.5	7.6	7.9
	5.84	8.55	8.14	8.11
	0.02	0.04	0.02	0.02
	0.27	0.88	0.31	0.47
	0.00052	0.00051	0.00034	0.00043
	0.00099	0.00173	0.00186	0.0008
	2.3	1.0	0.9	0.9
	0.029	0.111	0.055	0.055
	0.184	0.917	0.141	0.711
	0.00035	0.00548	0.00076	0.00086

GB3838-2002

7.2.2

2024 2024

100% 1~ 34 I

4 11.8% 29 85.3% 1 2.9%

GB3838-2002

7.2.3

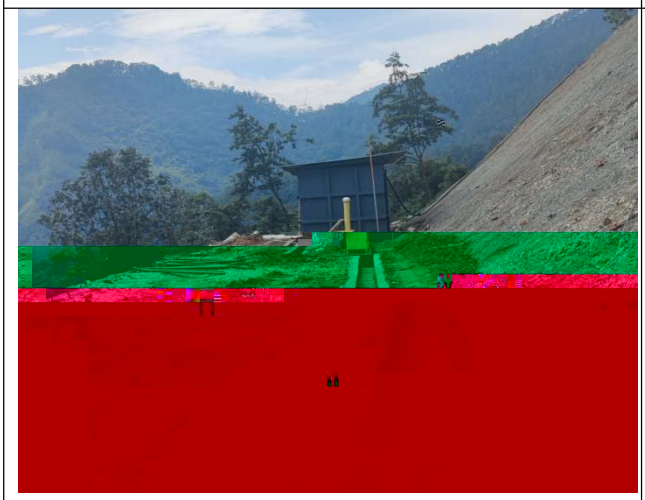
7.3

7.4

7.4.1

7.4-1

		2365m 2350m 2335m 2280m 2270m 2265m 2245m 2225m 0.4m×0.4m 2325m 2295m 2245m 2205m 2185m 2325m 2185 1 4m³	2365m~2325m 0.6m×0.6m 0.4m 2280~2185 0.4m×0.4m 0.2m 2325m 2185 1 4m³	
		2085m 2155 1 4m³ 2125 1 90m³ 2035m 1 1 350m³	2155 2125 2125 1 160m³ 1 90m³ 1 120m³ 2035m 1 1 350m³	
		3 100m³ 2 1	3 100m³ 2 1	
		1 350m³	1 350m³	

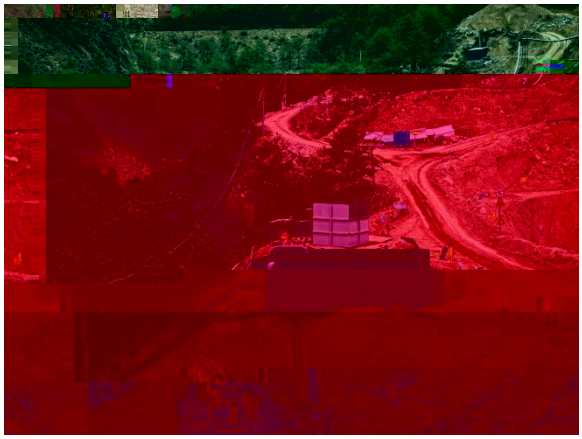
	
2325	2185
	
2385 2365	2350-2335
	
2365	2155

	
2125 160 ^{3}	90 ^{3}
	
120 ^{3}	350 ^{3}
	
1# 30 ^{3}	2# 65 ^{3}

3# 15 3

4# 15 3

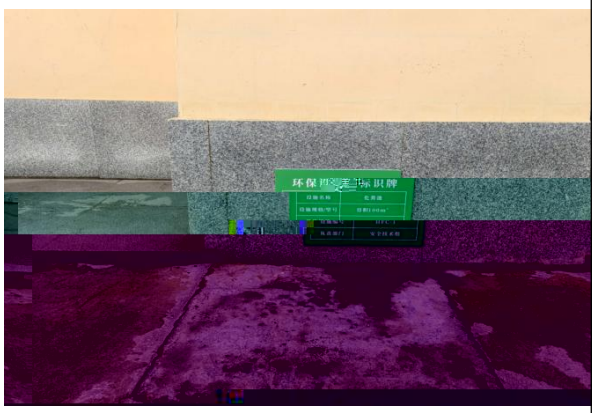
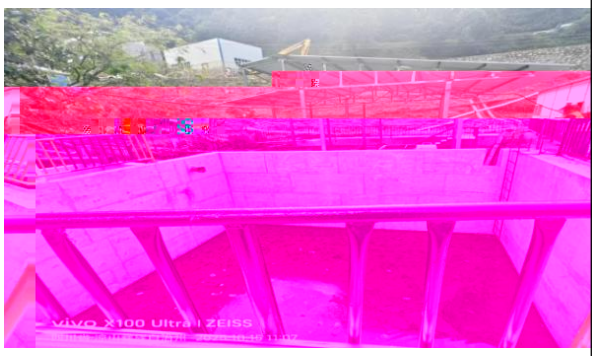
5# 128 3



6# 108 3

75 3

45 3

6 3	2 350 3
	
	
	350 3

7.4.2

1 50m^3/d “

” 100%

7.4.3

7.4.4

2022 03090016

2022 [2022] 0302501

[2022] 0605801 [2022] 0907101 [2022] 1213401

7.4-2 H /L

	2022 03090016	**[2022] 0302501**	**[2022] 0605801**	**[2022] 0907101**	**[2022] 1213401**
pH	6.7	7.2	7.5	7.2	7.3
SS	29	10	9	18	13
COD	12	8	6	9	18
NH_3-N	0.088	0.673	0.285	2.1	0.078
	0.06	/	/	/	/
	<0.00009				
	<0.05				
	<0.0003				
	0.00007				
	1.22	0.991	0.811	0.17	1.19
	<0.004	0.004	ND	ND	ND
	<0.004	0.008	ND	ND	ND
	<0.00004	/	/	/	/

TN	0.32	/	/	/	/
TP	0.037	0.04	0.05	0.07	0.12

3

4

8

8.1

8.1.1

2023 2023

7.8 / 9.3% 9.8 /

18.3% 95 0.9 /

18.2% 8 90 121.9 /

17.3% PM_{10} 33.3 /

4.7% $PM_{2.5}$ 18.7 / 14.0%

70 / 2024 2

21 ~2024 2 27 2024 5 28 ~2024 6 4

8.1-1 / ^{3}

					P	
1#	TSP	7	158~189	300	0.63	
	H_2SO_4	7	34~89	300	0.297	
		7	ND	3.0	/	
		7	ND	0.03	/	
		7	0.005~0.0264	0.036	0.733	
		7	0.008~0.031	0.3	0.103	
		7	ND	/	/	
2#	TVOC	7	1.1~1.3	600	0.0022	
		7	0.9~1.3	20	0.065	
	1 ND 2 GB3095-2012 TVOC H_2SO_4 HJ2.2-2018 D					

8.1.2

2024 2024

7.5 / 3.8% 8.6 /

12.2% PM_{10} 30.1 / 9.6%

$PM_{2.5}$ 16.7 / 10.7% 95

1.0 / 11.1% 8 90

117.9 / 3.3%

8.1.3

8.2

1

8.3

8.3.1

8.3-1

		2 100m	
	2 1 + 1 15m	2 1 + 1 15m	
	1 1 15m	1 1 15m	
	1 + + 1 15m	1 + 1 15m	
	3 1 + + 1 15m	3 2 + + 1 15m	
	1	1	

8.3.2

8.3.2.1

8.3.2.2

2 100m

	
	
100	**100**

8.3.2.3

2

1 + 1 15m 2

2

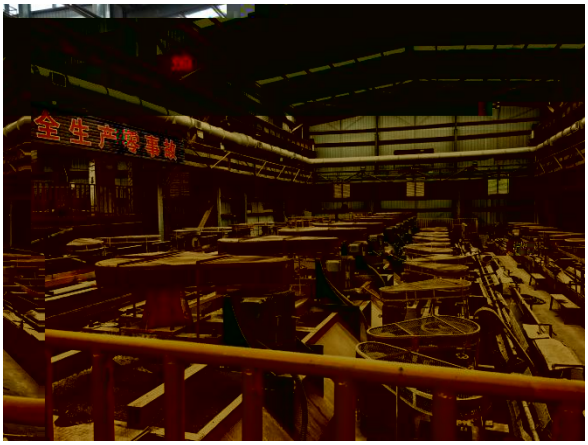
8.3.2.4

2

1 1 15m

1 +

1 15m


全生产零事故


vivo X100 Ultra | ZEISS


vivo X100 Ultra | ZEISS


vivo X100 Ultra | ZEISS

8.3.2.5

3 2 +

\+ 1 15m

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8.3.2.6

8.3.2.7

1

8.3.3

8.3.3.1

2025 8 26 ~2025 8 27 4

2025 03090010

8.3-2

	2025.8.26			m^3/h	19917	19518	19523	/
				mg/m^3	2.8	2.4	4.4	50
				kg/h	0.056	0.047	0.086	/
				m^3/h	193890	19522	19389	/
				mg/m^3	0.0109	0.0042	0.0139	0.7
				kg/h	2.11×10^{-4}	8.20×10^{-5}	2.70×10^{-4}	0.004
	2025.8.27			m^3/h	19934	20082	20081	/
				mg/m^3	2.7	1.4	3.2	50
				kg/h	0.054	0.028	0.064	/
				m^3/h	20081	20095	20092	/
				mg/m^3	0.0065	0.0103	0.0091	0.7
				kg/h	1.31×10^{-4}	2.07×10^{-4}	1.83×10^{-4}	0.004
	2025.8.26	VOCs		m^3/h	19384	19632	20145	/
				mg/m^3	0.71	0.75	0.67	60
				kg/h	0.014	0.015	0.013	3.4
	2025.8.27	VOCs		m^3/h	19411	19400	19530	/
				mg/m^3	1.02	0.97	0.94	60
				kg/h	0.02	0.019	0.018	3.4
	2025.8.26	VOCs		m^3/h	35634	35766	41072	/
				mg/m^3	0.71	0.65	0.67	60
				kg/h	0.025	0.023	0.028	3.4

		H_2SO_4		m^3/h	35634	35766	41072	/
				mg/m^3	0.42	0.39	<0.32	45
				kg/h	0.015	0.014	<0.013	/
	2025.8.27	VOCs		m^3/h	35947	35818	35681	/
				mg/m^3	0.86	0.73	0.75	60
				kg/h	0.031	0.026	0.027	3.4
		H_2SO_4		m^3/h	35947	35818	35681	/
				mg/m^3	0.33	<0.32	0.32	45
				kg/h	0.012	<0.011	0.011	/
	2025.8.26			m^3/h	2973	3027	3034	/
				mg/m^3	0.9	1.4	1.8	50
				kg/h	2.68×10^{-3}	4.24×10^{-3}	5.46×10^{-3}	/
		VOCs		m^3/h	2973	3027	3034	/
				mg/m^3	1.85	2.03	2.11	60
				kg/h	5.50×10^{-3}	6.14×10^{-3}	6.40×10^{-3}	3.4
				m^3/h	3103	3007	3005	/
				mg/m^3	0.168	0.0143	0.0123	0.7
				kg/h	5.21×10^{-4}	4.30×10^{-5}	3.70×10^{-5}	0.004
	2025.8.27			m^3/h	2912	2961	2874	/
				mg/m^3	1.4	2.8	1.8	50
				kg/h	4.08×10^{-3}	8.29×10^{-3}	5.17×10^{-3}	/
		VOCs		m^3/h	2912	2961	2874	/
				mg/m^3	1.22	1.08	1.12	60
				kg/h	3.55×10^{-3}	3.20×10^{-3}	3.22×10^{-3}	3.4

	m^3/h	2908	2908

GB26451-2011 5 ≤50mg/m^3

GB16297-1996 2

0.7mg/m^3 0.004kg/h

DB51/2377-2017 3 VOCs 3.4kg/h

60mg/m^3

GB26451-2011 5 ≤45mg/m^3

GB26451-2011 5 ≤50mg/m^3

GB16297-1996 2

0.7mg/m^3 0.004kg/h

DB51/2377-2017

3 VOCs 3.4kg/h 60mg/m^3

8.3.3.2

1

2025 8 26 ~2025 8 27

2025 03090010

8.3-3 / ^{3}

		2025.8.27			2025.8.27			
1#		0.141	0.212	0.141	0.211	0.351	0.352	1.0
		0.00430	0.00294	0.00193	0.0027	0.00291	0.00356	0.006
		0.018	0.018	0.019	0.018	0.018	0.018	1.2
	VOCs	0.32	0.30	0.31	0.28	0.33	0.29	2.0
2#		0.282	0.212	0.212	0.351	0.703	0.633	1.0
		0.0039	0.00226	0.00206	0.00288	0.00195	0.00321	0.006
		0.033	0.030	0.031	0.027	0.030	0.028	1.2
	VOCs	0.29	0.27	0.27	0.27	0.29	0.29	2.0
3#		0.423	0.282	0.424	0.491	0.492	0.422	1.0
		0.00316	0.00234	0.0024	0.00237	0.0023	0.00235	0.006
		0.027	0.026	0.026	0.028	0.025	0.030	1.2
	VOCs	0.27	0.28	0.25	0.32	0.32	0.33	2.0
4#		0.423	0.282	0.283	0.632	0.632	0.492	1.0
		0.00376	0.00291	0.00215	0.00292	0.00301	0.00222	0.006
		0.035	0.036	0.026	0.024	0.025	0.033	1.2
	VOCs	0.26	0.28	0.31	0.29	0.29	0.26	2.0
GB16297-1996 2		GB26451-2011			≤1.0mg/m^{3}		≤1.2mg/m^{3}	
		≤0.006mg/m^{3}		VOCs				
		DB51/2377-2017			≤2.0mg/m^{3}			

GB26451-2011 ≤1.0mg/m^3

≤1.2mg/m^3 GB16297-1996

2 ≤0.006mg/m^3 VOCs

DB51/2377-2017 ≤2.0mg/m^3

2

2025 8 26 ~2025 8 27

2025 03090010

8.3-4 / ^{3}

		2025.8.26				2025.8.27				
		1	2	3		1	2	3		
NMHC		0.28	0.32	0.32	0.31	0.33	0.32	0.28	0.31	6.0

8.3-5 **1** / ^{3}

		2025.8.26			2025.8.27			
		1	2	3	1	2	3	
VOCs NMHC		1.5	1.9	1.8	1.7	1.6	1.6	20

GB37822-2019

8.3.3.3

VOCs

VOCs 3

1

VOCs 0.02kg/h×5280h/a×10^{-3}=0.1056t/a

3

VOCs 0.031kg/h×7920h/a×10^{-3}=0.2455t/a

4

VOCs 0.0064kg/h×7920h/a×10^{-3}=0.0507t/a

0.1056t/a+0.2455t/a+0.0507t/a=0.4018t/a

8.3-6 /

VOCs	0.785	0.4018

VOCs

8.4

8.4.1

1

2

GB26451-2011 GB16297-1996

DB51/2377-2017 3

3

2 100m

4

GB26451-2011 GB16297-1996 2

DB51/2377-2017

GB37822-2019

8.4.2

1

2

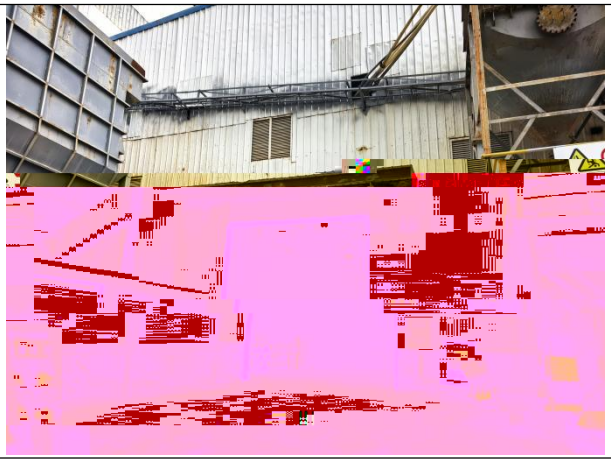
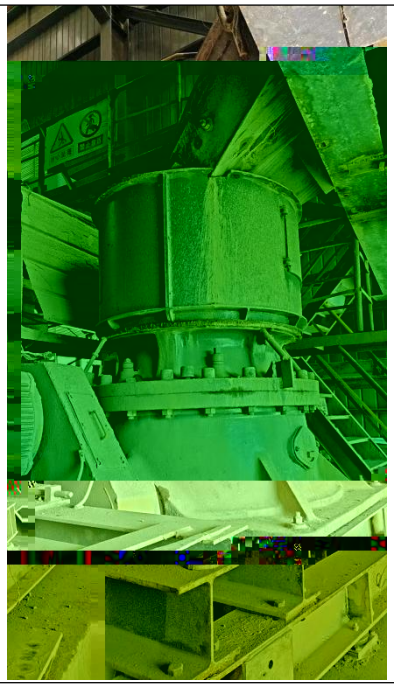
9

9.1

1

9.2

9.2.1

9.2.2

2025 8 26 ~2025 8 27 2025

03090010

9.2-1 L B(A)

		2025.8.26		**2025.8.27**			
1#	1m	51	46	50	47	60	50
2#	1m	51	46	51	46		
3#	1m	52	47	52	47		
4#	1m	51	46	51	46		
5#	1m	54	49	55	49		
6#	1m	53	48	54	48		
7#		52	47	51	46		
8#		52	46	51	45		
GB12348-2008 2 60dB(A) 50dB(A)							

200m

GB12348-2008 2

GB3096-2008 2

9.3

9.3.1

1

2 GB12348-2008

2

3 200m

GB3096-2008 2

9.3.2

1

10

10.1

10.2

10.2.1

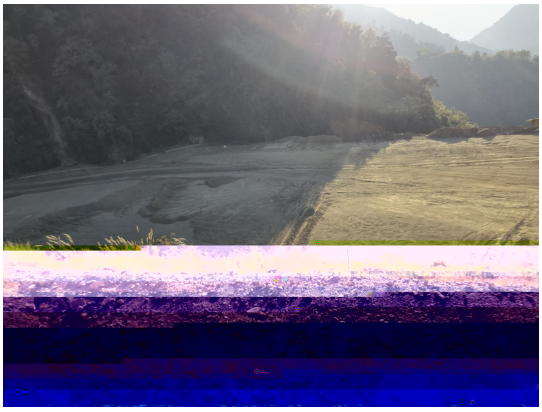
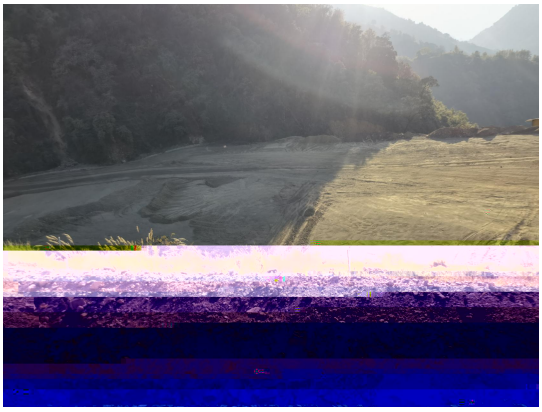
10.2-1

10.2.2

10.2.2.1

2.2km

2022 10 26

10.2.1.2

1.38km

2022 10 26

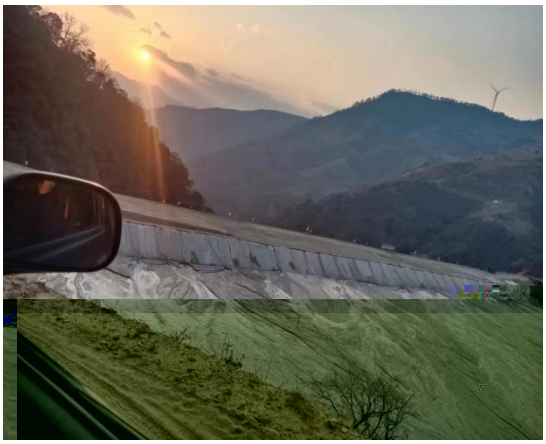
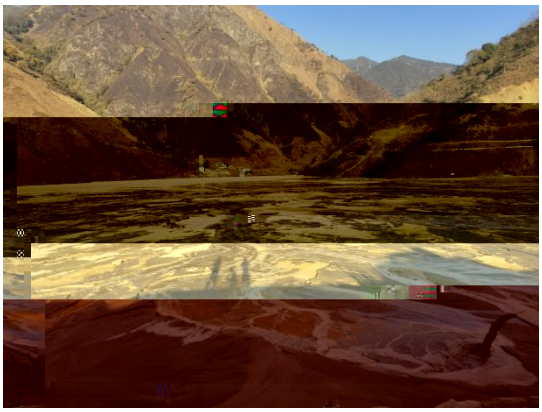
3976.06 m^3

25.7 198.37m I

1720m

1836m

26m 1:1.0 1:1.5 1720.00m

10.2.1.3

- -

10.2.1.4

10.2.1.5

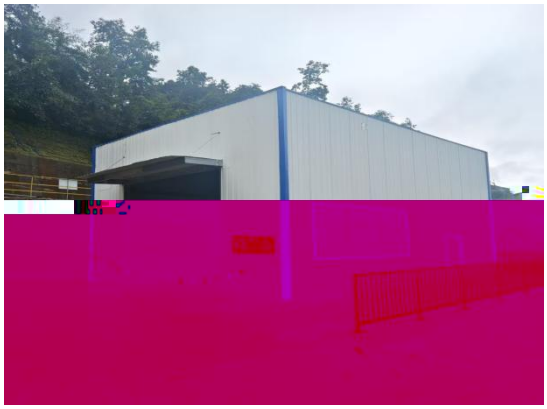
10.2.1.6

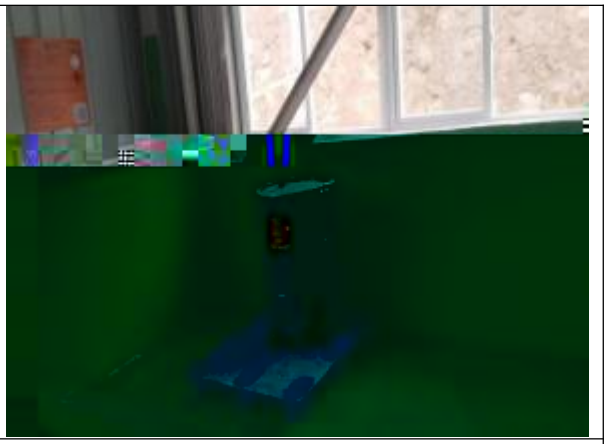
GB18597-2023 1 108m^2

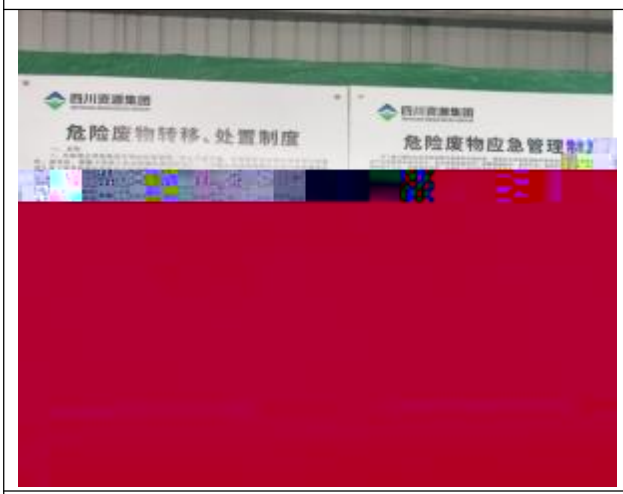
+2mm HDPE +

[510422-009] HW08

HW49 2025 12 31







10.3

10.3.1

1

2

11

11.1

11.1.1

1

2023 8 17

70 /

[2023]402

18 / 70 /

2

[2024]20

70 / 5 1.5

50 / 13 3

70 /

2024 1

70 /

2024 8 19

70 /

[2024]99

3

2023

70 /

2024 4

70 /

2024 9 70 /

2025 7

11.1.2

70 /

11.1.3

2025 3

2025 4 8

2025 8

70 / 2025

08 10 2025 08 15 2025 10

2025 10

2025 10

70 /

11.1.4

1

8

11.1-1

	5km	

2

“ ”

11.1-2

	γ	γ
		^{222}Rn
		α β ^{210}Po ^{210}Pb
		α β U Th ^{226}Ra ^{210}Po ^{210}Pb
		U Th ^{226}Ra
		α β U Th ^{226}Ra ^{210}Po ^{210}Pb
		U Th ^{226}Ra
		α β U Th ^{226}Ra ^{210}Po ^{210}Pb

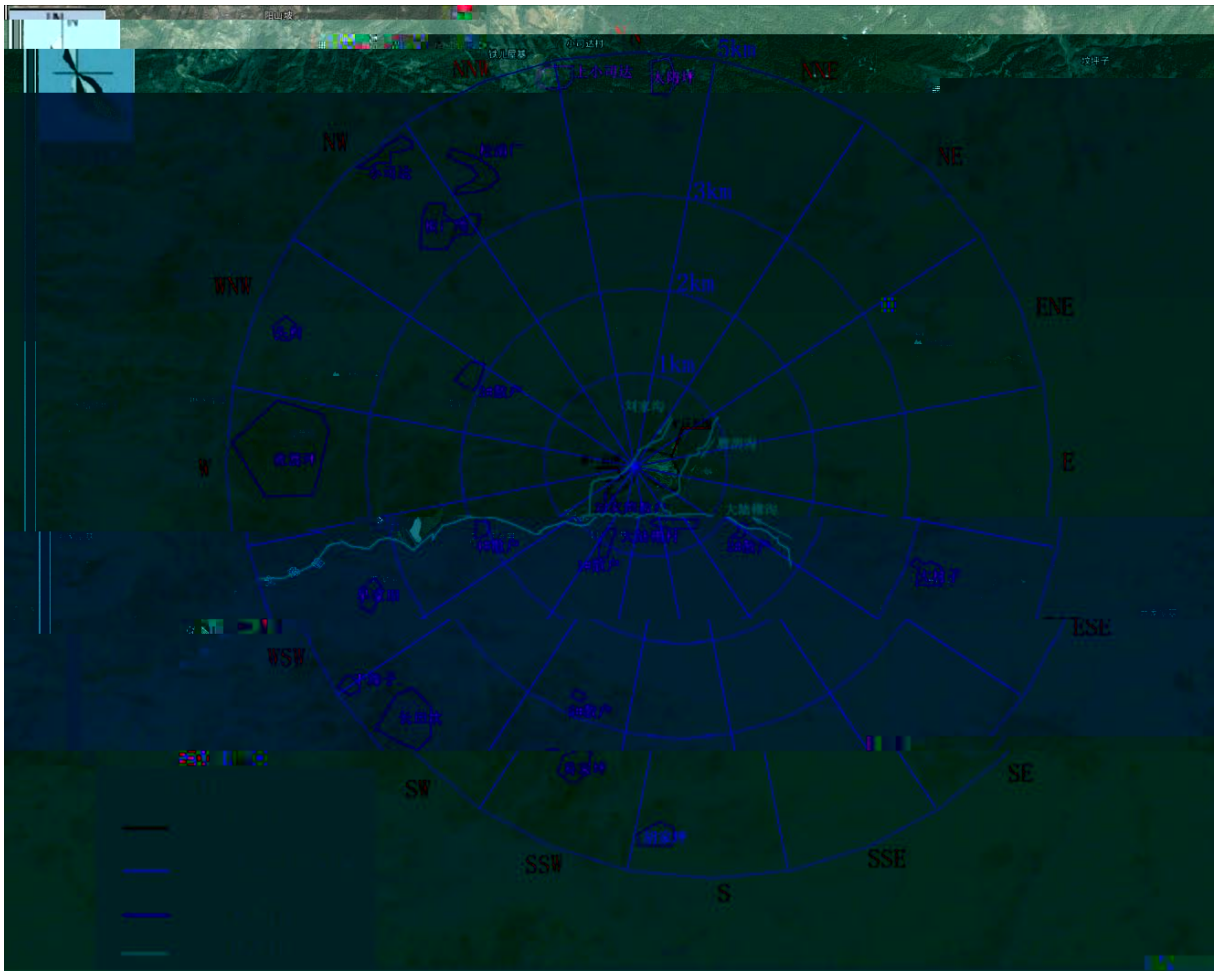
11.1.5

11.1-3

1		E101°57′22.67924″ N27°12′5.89317″		3		315m
2		E101°57′18.70099″ N27°12′4.73445″		34 100		363m
3	2#	E101°56′58.98104″ N27°12′15.22188″		6 20		780m
4		E101°56′59.01857″ N27°12′15.19852″		2 3		20m
5	1#	E101°56′57.04269″		6 20		310m

6	4#	N27°12′5.32346″ E101°55′57.98688″	7	35	1658m
7	5#	N27°11′57.52145″ E101°56'29.9255"	2	5	2773m
8		N27°10'37.4065" E101°56′55.54243″	6	15	28m
9	3#	N27°12′16.80141″ E101°55′59.93739″	3	10	1785m
10		N27°12′52.07759″ E101°59'04.1272"	14	70	2885m
11		N27°11'32.2093" E101°56'56.5818"	15	60	4376m
12		N27°09'51.4691" E101°56'16.6575"	50	260	3691m
13		N27°10'22.5381" E101°55'24.7705"	50	280	4090m
14		N27°10'39.3834" E101°54'52.6592"	12	50	4350m
15		N27°10'49.6361" E101°55'08.7721"	16	70	3770m
16		N27°11'23.2891" E101°55'00.7369"	18	90	3690m
17		N27°12'26.3009" E101°54'39.3792"	38	190	4090m
18		N27°12'59.0706" E101°55'40.7029"	6	30	4665m
19		N27°14'21.7940" E101°56'09.0839"	10	50	4119m
20		N27°14'11.9039" E101°55'59.1831"			

	250m	360m



11.1-1

11.2

11.2.1

1 2003 10 1

2 612 2012.3.1

3 2020 54 2021.1.1

4 2019 8 22

5 2016 71

6 2018 1 2019.1.1

7

2024 479

8 2016 6 1

9

18

/ 70 /

65% 45%

11.3.2

1 1 + 1 + +	+ 1
	2 1

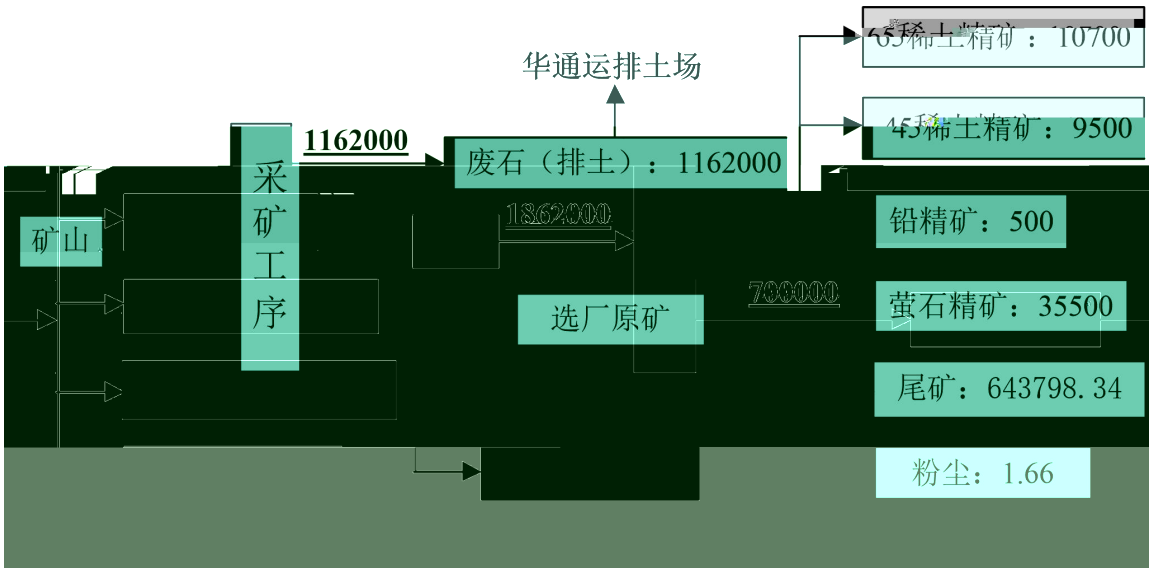
11.3.4

1

70 /

11.3-2 /

	700000	65	10700
		45 1	6800
		45 2	2700
			500
			35500
			643798.34
			1.66
	700000		700000
1			



11.3-2 /

2

65% 45%

11.3-3 **B /**

		-226	**-232**	**-238**
	-1	380	280	298
	-2	371	272	262
	-3	387	260	300
	-4	380	265	246
		379.5	269.25	276.5
65%	-1	536	2740	934
65%	-2	546	2780	918
65%	-3	532	2720	862
65%	-4	529	2740	873
		535.75	2745	896.75
45%	-1	690	3090	236
45%	-2	693	3100	220
45%	-3	711	210	213
45%	-4	690	3080	272
		696	2370	235.25
	-1	56.6	24.5	16.3
	-2	54.4	22.4	21.7
	-3	58.5	23.7	20.6
	-4	54.2	22.4	19.4
		55.925	23.25	19.5
	-1	188	97.3	190
	-2	181	90.9	213
	-3	183	92.7	209
	-4	196	93.2	200
		187	93.525	203
	-1	196	130	169
	-2	198	122	178
	-3	209	127	158
	-4	206	136	175
		202.25	128.75	170

-232 1Bq/g

1Bq/g

3

1

11.3-4

		/	^{232}T	^{232}T B /	%
		700000	269.25	1.88E+11	100
	65	10700	2745	2.94E+10	15.58
	45	9500	2370	2.25E+10	11.95
		500	23.25	1.16E+07	0.01
		35500	93.525	3.32E+09	1.76
		0.012	269.25	3.23E+03	0.00
		1.388	269.25	3.74E+05	0.00
		0.26	2745	7.14E+05	0.00
		643798.34	207	1.33E+11	70.7
		700000			100.0

2

11.3-5

		/	^{238}U B /	^{238}U B /	%
		700000	276.5	1.94E+11	100
	65	10700	896.75	9.60E+09	4.96
	45	9500	235.25	2.23E+09	1.15
		500	19.5	9.75E+06	0.01
		35500	203	7.21E+09	3.72
		0.012	276.5	3.32E+03	0.00
		1.388	276.5	3.84E+05	0.00
		0.263	896.75	2.36E+05	0.00
		643798.34	271.04	1.74E+11	90.16
		700000			100.0

3

11.3-6

/	

		0.012	379.5	4.55E+03	0.00
		1.388	379.5	5.27E+05	0.00
		0.263	535.75	1.41E+05	0.00
		643798.34	383.1	2.47E+11	92.84
		700000			100.0

11.3.5

1

1

^{238}U ^{226}Ra ^{232}Th ^{238}U ^{226}Ra ^{232}Th

2

65% 45%

^{238}U ^{226}Ra ^{232}Th -232 1Bq/g 1Bq/g ^{238}U ^{226}Ra ^{232}Th

1 5240m^2

2

1 3

2

1

2085m 2325m

2185 1 4m^3

2125 1 160m^3 1 90m^3

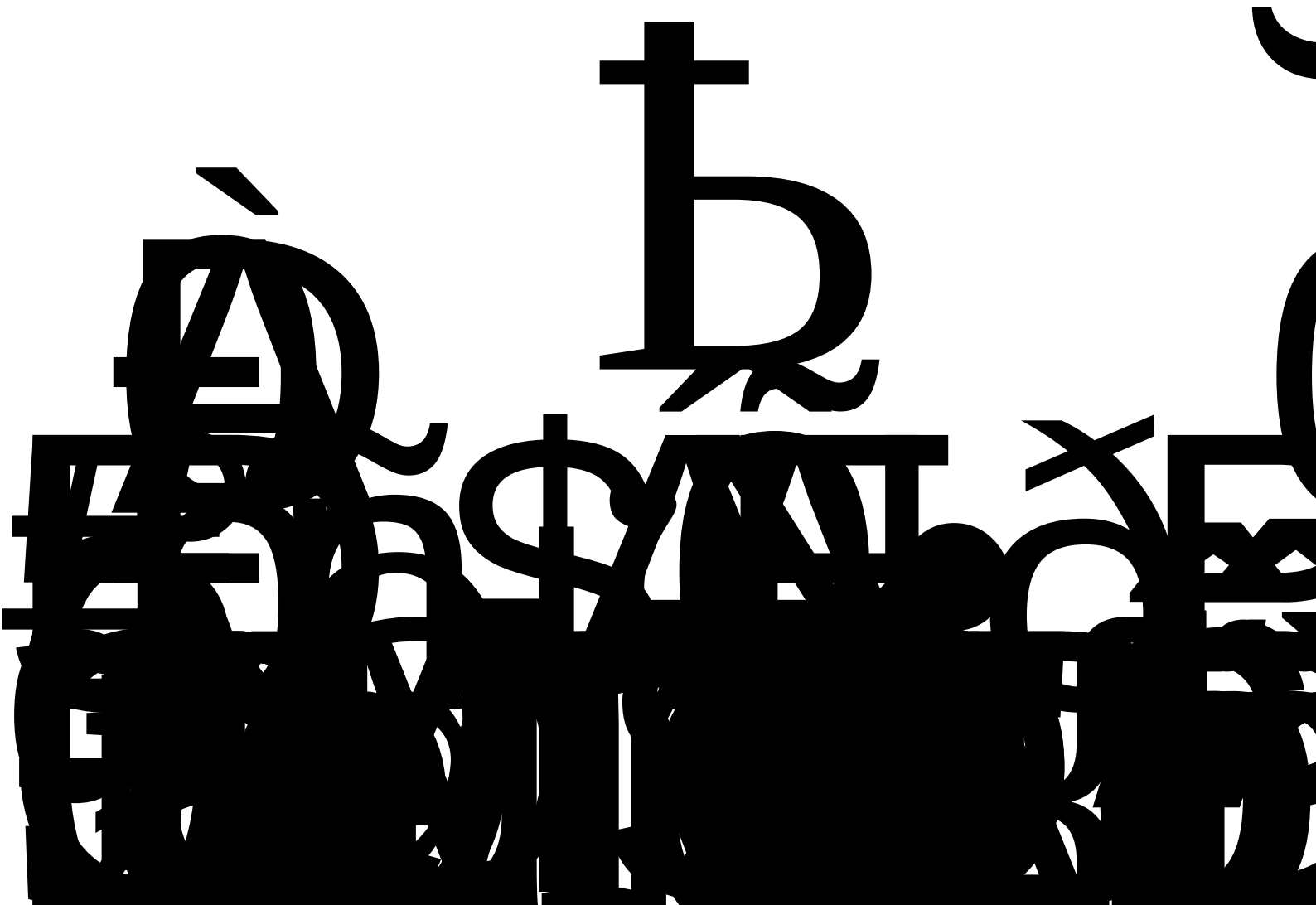
1 120m^3 2035m 1

1 350m^3

2

3

1 350m^3



+1 15m +1 15m

2 2

+1 +1 +

/ /

\+ +1 +1

15m 15m

5

1##, ℵn ℽ 1

1

1.2m

2

GB39176-2020

( ) HJ1114-2020

(GB39176-2020) 4.1

:a) b) ;c) d) e)

f) ;

( )

(HJ1114-2020) 7.1

2

11.4-2

1			2 100m	
2				
		GB39176-2020 4.1	GB39176-2020 4.1	

		HJ1114-2020 7.1	HJ1114-2020	

11.4.3

1

1

2

1 5240m^2

“

”

2 100m

20m

2 100m

3

2

1 + 1 15m

2

4

1 3

0.5%

3 2 +1 +

1 15m

65% 45%

^{238}U ^{226}Ra ^{232}Th -232

1Bq/g 1Bq/g ^{238}U ^{226}Ra ^{232}Th

11.4-3

			2 100m	
		+1 + +1 15m	+1 + +1 15m	
		2 +1 + +1 15m		/

2

11.4-4

		6 1# 30m³ 2# 65m³ 3# 15m³ 4# 15m³ 5# 50m³ 6# 1000m³	5# 128m³ 6# 108m³ 3 75m³ 45m³ 6m³ 2 350m³ 1192m³	
		2155 1 4m³ 2125 1 90m³	2325m 2185 1 4m³	

		2035m 1 1 350m^3	2125 1 160m^3 1 90m^3 1 120m^3 2035m 1 1 350m^3	
		1 350m^3		/

11.4.4

1

1

1

2

“

”

2

1

2

3

3

1

[2018]1 HJ61-2021

11.4-5

1			U Th	1 /
2			U Th	1 /
3			U Th ^{226}Ra α β ^{210}Pb ^{210}Po	1 /
4			U Th ^{226}Ra α β ^{210}Pb ^{210}Po	1 /

2

[2018]1 HJ61-2021

11.4-6

	^{222}Rn	1 2 3~6 7~10	1 /
	α β ^{210}Po ^{210}Pb	1 2	1 /
γ		1~4 5~8 9 10 11 12 500m 13 14	1 /
	U Th ^{226}Ra α β ^{210}Po ^{210}Pb	1 200m 2 200m 3 700m 4 400m 5 200m 5 1km	1 /
	-226		1 /
	-226	1 2 3	1 /
	-226	1~4 5~8 9 500m 10 11	1 /
^{222}Rn			

[2018]1 HJ61-2021

1 HJ61-2021 13

2 1

3 [2018]1 2

4 HJ61-2021 13 α β ^{210}Po ^{210}Pb

5 1 200m

6 HJ61-2021 13

11.4-6

[2018]1

HJ61-2021

3

4

1 630m^2

HJ1114-2020

11.4-7 **HJ1114-2020**

HJ1114-2020			1 630m^2	
			1 2 3 4	
		1×10^{-7}cm/s 2m	1×10^{-7}cm/s	
			65% 45%	

		^{238}U ^{226}Ra ^{232}Th	1	

HJ1114-2020

11.5

11.5.1

1

70 /

70 t/a 70 t/a 5 ( ) 1 1 0.1496km^2 70.48

2

X-γ

X-γ

^{210}Pb ^{210}Po

^{210}Pb

α β (GB/T14848-2017)

-226

-238 -232 2022

-226 2022

-226 (17~48Bg/kg)

-238 -232 -226 2022

-238 -232 2022

3

1

SSE 363km 4.57E-06Sv/a

0.1mSv/a

SSW

0~1km 7.77E-06mSv/a 0.1mSv/a

2

1

50m^3/d

1 350m^3

3

4

GB27742-2011 1Bg/g

1Bq/g

5

,

4.57E-06Sv/a 0.1mSv/a

2.40E-06Sv/a 99.46% 3.84E-06Sv/a

99.66% 4.55E-06Sv/a 99.72%

4

5

11.5.2

11.6

11.6-1

		GB/T14848-2017	/	GB/T14848-2017
		GB26451-2011	/	GB26451-2011
		GB26451-2011	/	GB26451-2011
		GB18871-2002	/	GB18871-2002

1

α GB/T14848-2017

α 0.5Bq/L 1.0Bq/L

2

GB26451-2011

11.6.2

1		0.1mg/m^3	
		0.0025mg/m^3	
2		0.1mg/L	

3

GB18871 2002 B

1mSv

GB 18871 2002 11.4.3.2

10%~30% 0.10mSv~0.30mSv

(GB18871-2002)

0.1mSv/a

11.7

11.7.1

11.7.1.1

11.7-1

F1			U Th ^{226}Ra α β ^{210}Pb ^{210}Po	1 1
F2			U Th ^{226}Ra α β ^{210}Pb ^{210}Po	

11.7.1.2

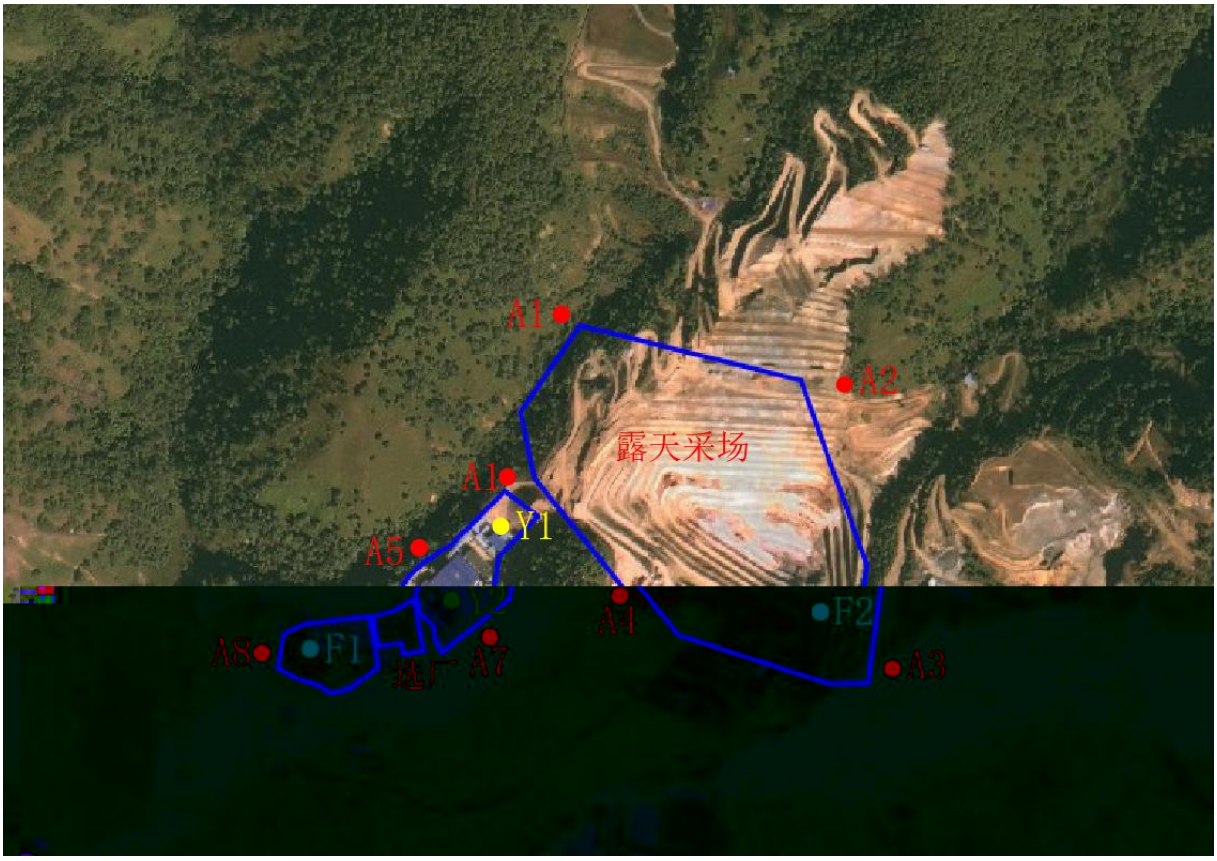
1 1

2

1 1

11.7-2

	Y1				
	Y2				
	A1				
	A2		1		
	A3				
	A4				1 1
	A5				
	A6		1		
	A7				
	A8				



11.7-1

11.7.2

γ 13 γ

11.7-2

11.7-3

R1

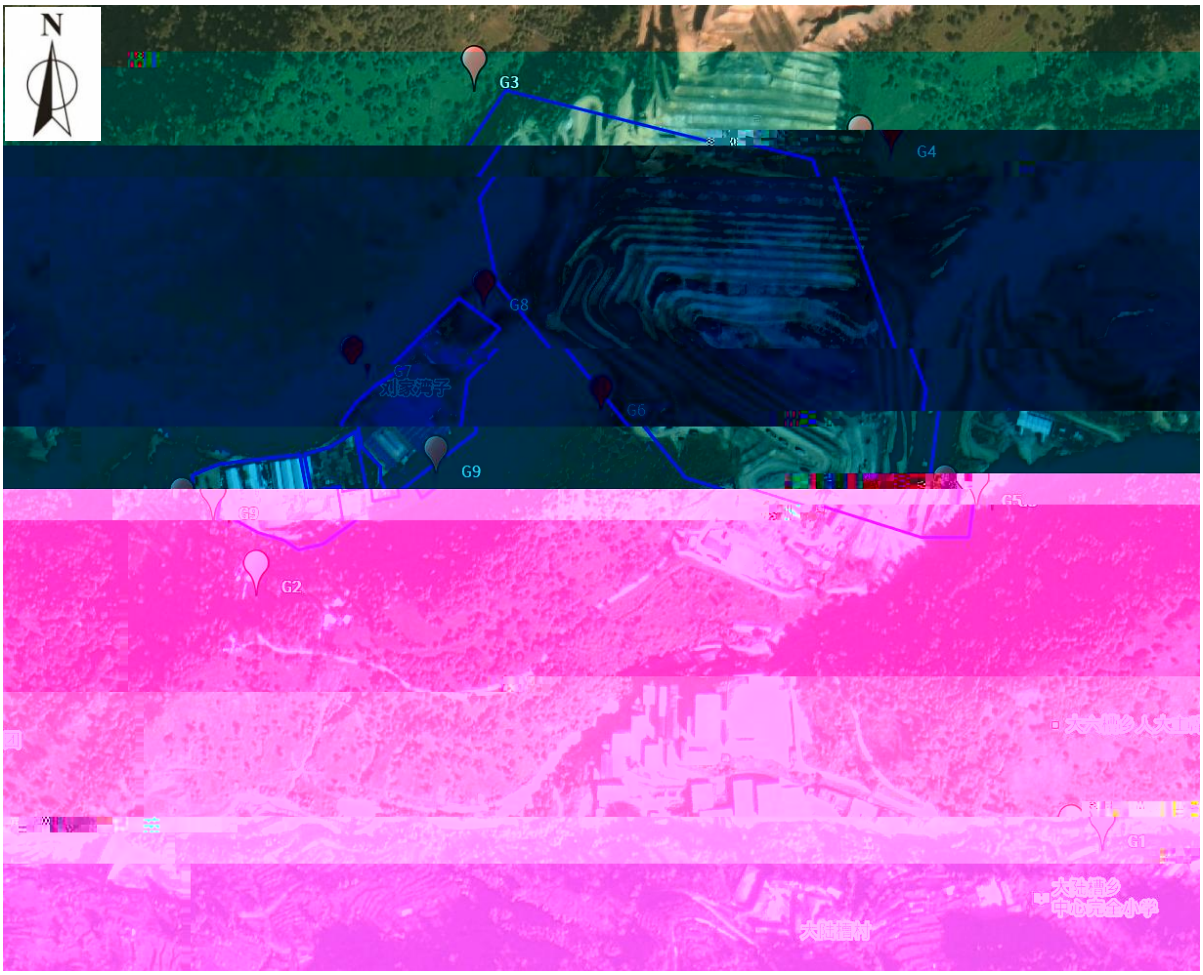
R11			
R12			
R13	40m		

11.7-2

11.7-4

G1			^{222}Rn	1	
G2		40m			
G3					
G4					
G5					
G6					
G7					

G8					
G9					
G10					

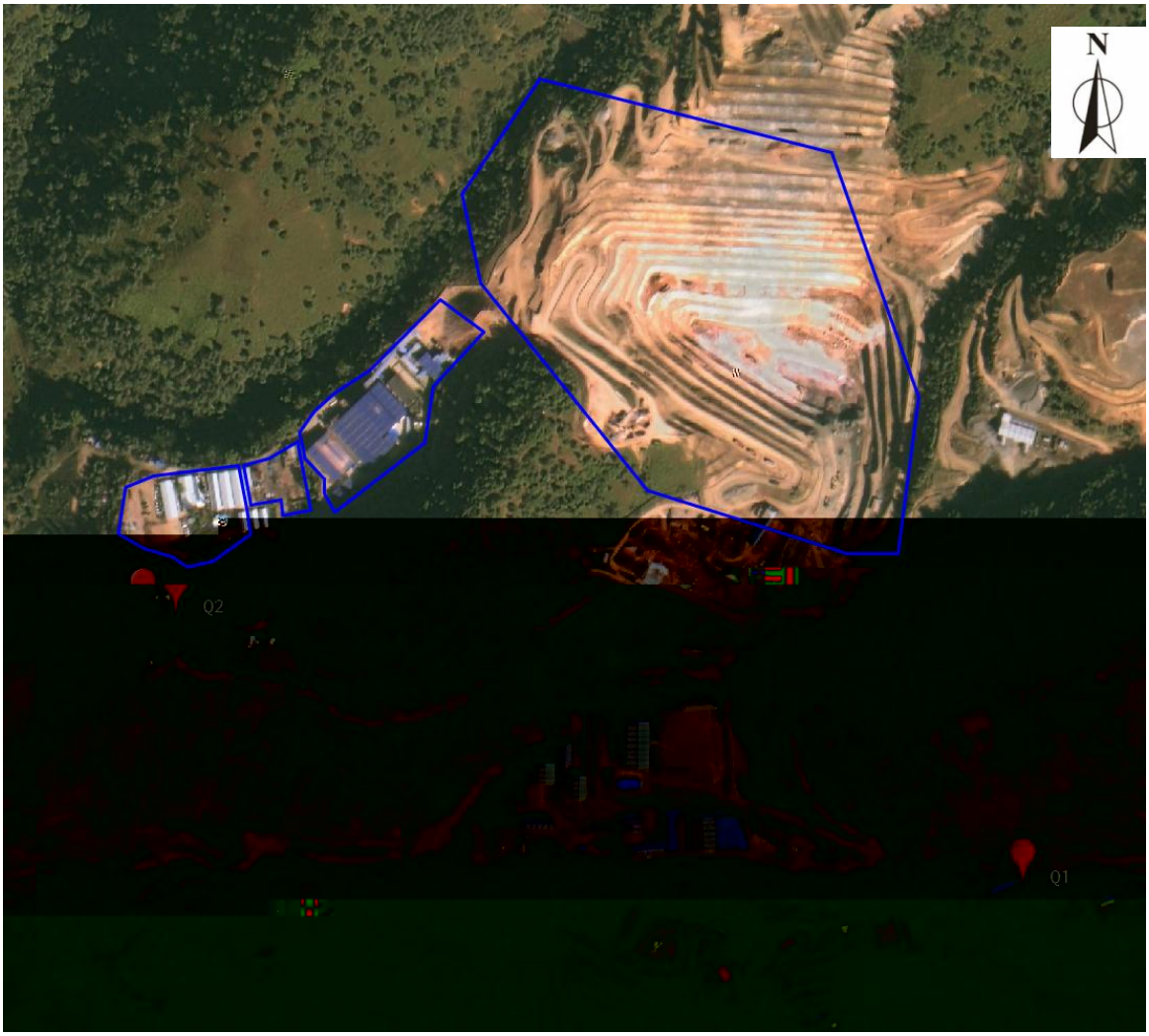


11.7-3

2

11.7-5

Q1			α β ^{210}Po ^{210}Pb	1	
Q2		40m			



11.7-4

1

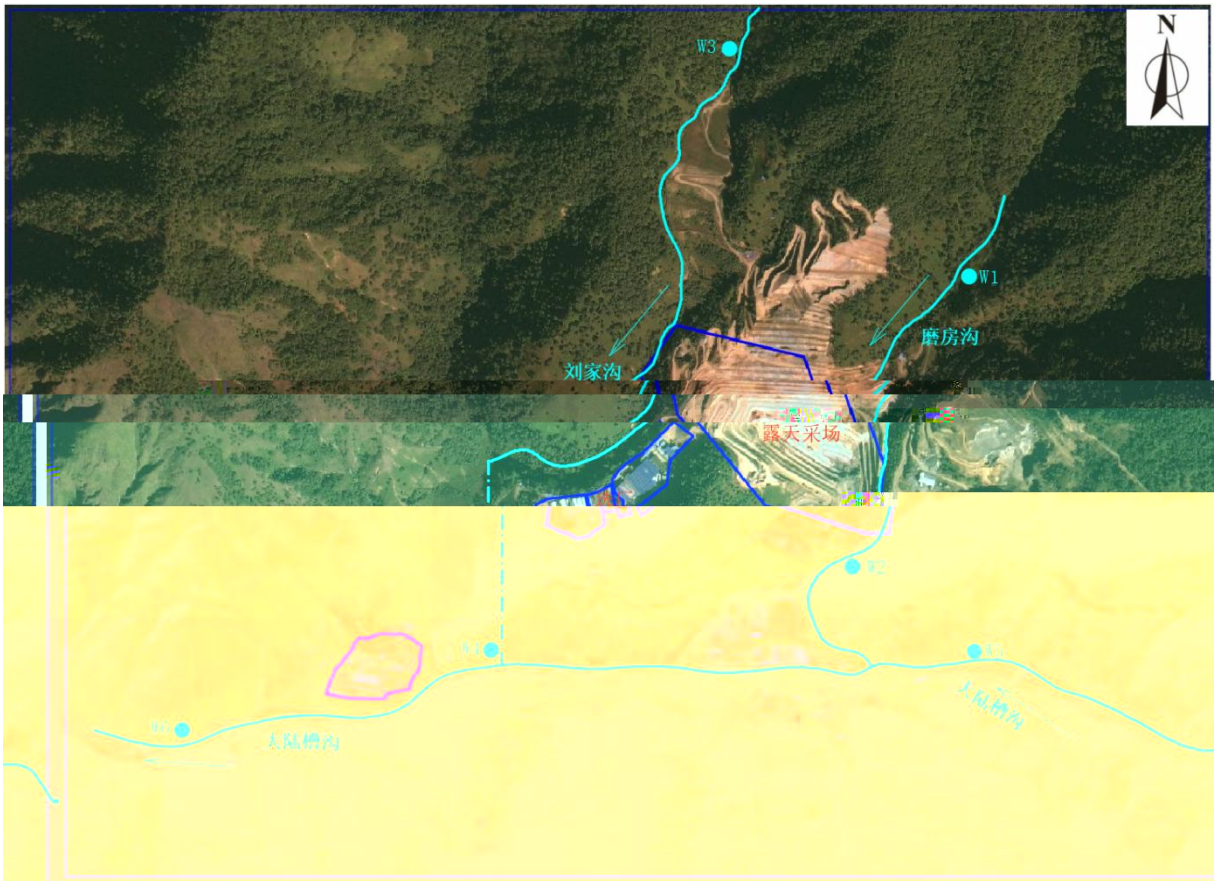
6

2

U Th ^{226}Ra α β ^{210}Po ^{210}Pb 7

11.7-6

W1		U Th ^{226}Ra α β ^{210}Po ^{210}Pb U Th ^{226}Ra	1 1	
W2				
W3				
W4				
W5	500m			
W6	1000m			

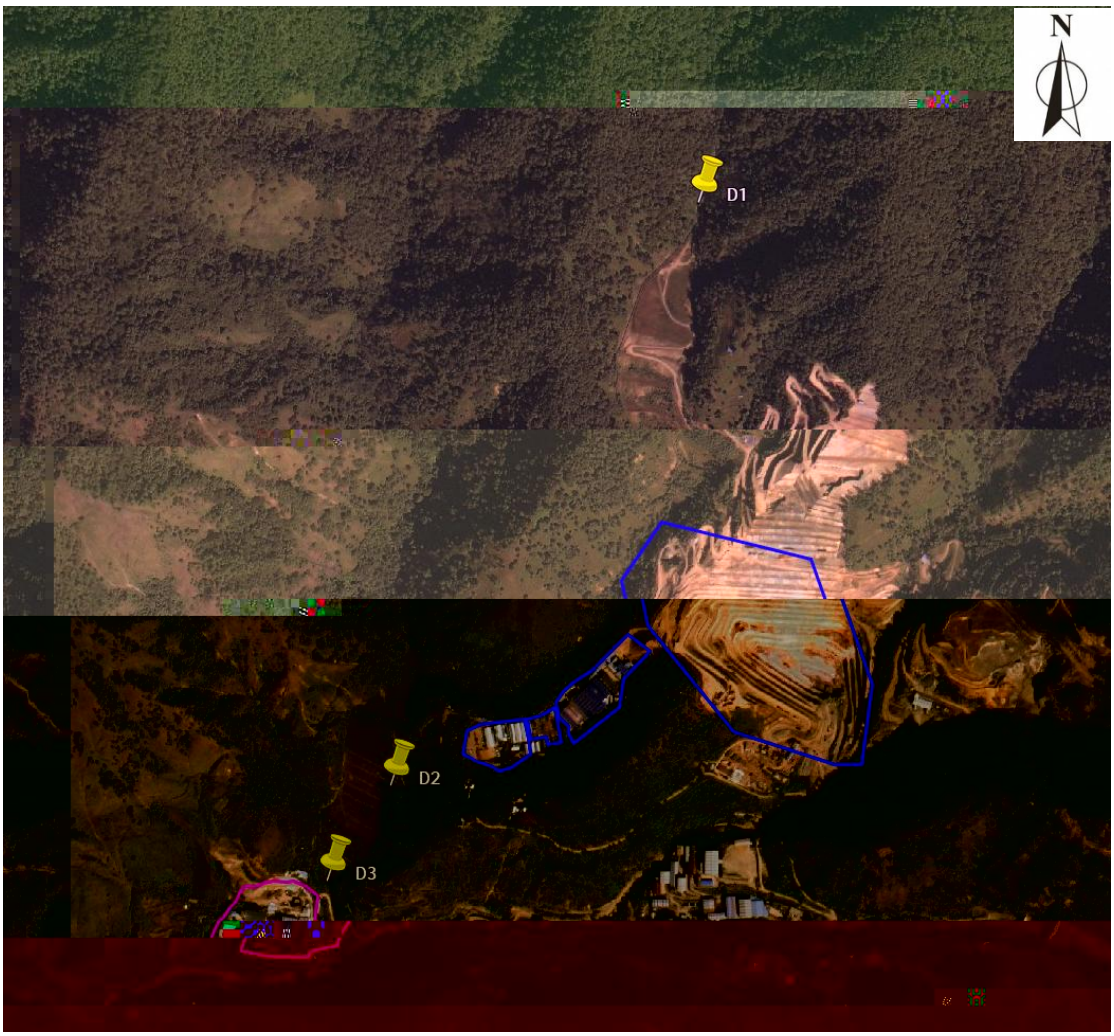


11.7-5

3

11.7-7

D1		α β U Th ^{226}Ra ^{210}Po ^{210}Pb	1 1	
D2				
D3				



11.7-6

1

11

2

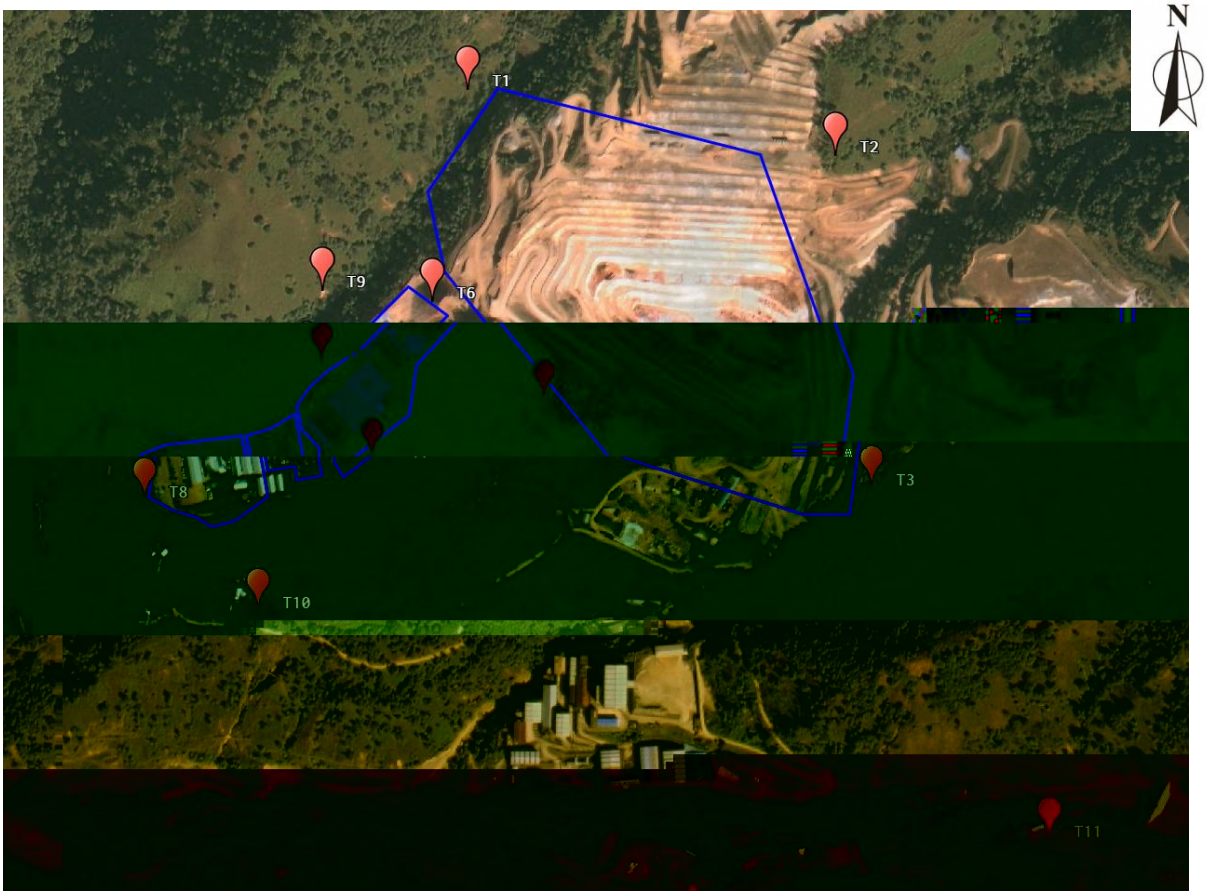
U Th ^{226}Ra

3

11.7-8

T1		U Th ^{226}Ra	1
T2			
T3			
T4			
T5			
T6			

T7			
T8			
T9	100m		
T10			
T11			



11.7-7

11.8

11.8.1

240021049853 ISO9001 ISO14001

OHSAS18001

1 50000

11.8.2

11.8-1

	HJ657-2013	ICAP Qa/CF0282	0.003 μg/m³
	HJ657-2013	ICAP Qa/CF0282	0.008 μg/m³

11.8-2

β	β HJ899-2017	α β MPC-9604/CF0241	/
	HJ657-2013	ICAP Qa/CF0282	0.01 ng/m³
	HJ657-2013	ICAP Qa/CF0282	0.03 ng/m³

α	α HJ898-2017	α β MPC-9604/CF0241	/
-210	 GB/T16145-2022	SIM-MIX HPGe1600/CZ0201	/
-210	 GB/T16141-1995	8 α 7200-08/CF0121	/

11.8-3

β	β HJ899-2017	α β MPC-9604/CF0241	/
	65 HJ700-2014	ICAP Qa/CF0282	0.00005 mg/L
	65 HJ700-2014	ICAP Qa/CF0282	0.00004 mg/L
-226	-226 GB11214-1989	FD-125/CF0005	/
α	α HJ898-2017	α β MPC-9604/CF0241	/
-228	 GB/T16145-2022	SIM-MIX HPGe1600/CF0243	/
-210	 GB/T16145-2022	SIM-MIX HPGe1600/CF0243	/
-210	-210 HJ813-2016	8 α 7200-08/CF0121	/

11.8-4

β	β HJ899-2017	α β MPC-9604/CF0241	/
	65 HJ700-2014	ICAP Qa/CF0282	0.00005 mg/L
	65 HJ700-2014	ICAP Qa/CF0282	0.00004 mg/L
-226	-226 GB11214-1989	FD-125/CF0005	/

α	α HJ898-2017	α β MPC-9604/CF0241	/
-210	 GB/T16145-2022	SIM-MIX HPGe1600/CF0243	/
-210	-210 HJ813-2016	8 α 7200-08/CF0121	/

11.8-5

	DZG20-6/	ICAP Qa/CF0282	0.009 μg/g
	DZG20-6/	ICAP Qa/CF0282	0.003 μg/g
-226	γ GB/T 16145-2022	SIM-MIX HPGe1600/CF0243	/

11.8-6

β	β HJ899-2017	α β MPC-9604/CF0241	/
	65 HJ700-2014	ICAP Qa/CF0282	0.00005 mg/L
	65 HJ700-2014	ICAP Qa/CF0282	0.00004 mg/L
-226	-226 GB11214-1989	FD-125/CF0005	/
α	α HJ898-2017	α β MPC-9604/CF0241	/
-210	 GB/T16145-2022	SIM-MIX HPGe1600/CF0243	/
-210	-210 HJ813-2016	8 α 7200-08/CF0121	/

11.8-7

	DZG20-6/	ICAP Qa/CF0282	0.009 μg/g
	DZG20-6/	ICAP Qa/CF0282	0.003 μg/g

-226	γ GB/T 16145-2022	SIM-MIX HPGe1600/CF0243	/

11.8-8

X-γ	γ HJ1157-2021	X- BH3103B CF0356 25keV~3MeV J20250206008 2025-03-05 2026-03-04	1~10000 ×10 ⁸Gy/h
	HJ1212-2021	PQ2000PRO CF0006 J202506103001 2025-06-11 2026-06-10	2~999999 Bq/m³
	HJ1212-2021	α FD218 CF0352 DLhd2024-06253 2024-11-06 2025-11-05	2~999999 Bq/m³
	HJ1212-2021	α FD218 CF0351 DLhd2024-06253 2024-11-06 2025-11-05	2~999999
	HJ1212-2021	RAD7 CF0030 J20250206003 2025-02-19 2026-02-18	Bq/m³

11.8.3

11.8.4

11.8.4.1

11.8.4.2

GB16157-1996 HJ/T55-2000

HJ91.1-2019 (HJ91.2-2022

HJ494-2009 HJ164-2020

HJ/T166-2004

10

60 100

11.8.4.3

10 2 16

12 4

10 12 10 1

1

10% 10% 0

100%

11.8-9

			%		%
β	10	1	10.00	0	100
α	10	1	10.00	0	100
	10	1	10.00	0	100
	10	1	10.00	0	100
-226	10	1	10.00	0	100
-228	4	1	25.00	0	100
-210	10	1	10.00	0	100
-210	10	1	10.00	0	100

11 12 11 1

10% 10%

0 100%

11.8-10

			%		%
	11	1	10.00	0	100
	11	1	10.00	0	100
-226	11	1	10.00	0	100

6 7 6 1

16.67% 10%

0 100%

11.8-11

			%		%
	6	1	16.67	0	100
	6	1	16.67	0	100
-226	6	1	16.67	0	100

11.8-12

					/		
			%	%	/	/ %	%
	4	1	25.00	100	/	/	/
	4	1	25.00	100	/	/	/

11.8-13

					/		
			%	%	/	/ %	%
	10	1	10.00	100	/	/	/
	10	1	10.00	100	/	/	/

11.8-14

					/		
			%	%	/	/ %	%
-210	2	1	50.00	100	/	/	/

11.8-15

					/		
			%	%	/	/ %	%
β	12	1	8.33	100	/	/	/
α	12	1	8.33	100	/	/	/
	12	2	16.67	100	2	16.67	100
	12	2	16.67	100	2	16.67	100
-226	12	2	16.67	100	1	8.33	100
-210	12	2	16.67	100	/	/	/
-210	12	2	16.67	100	/	/	/

11.8-16

					/		
			%	%	/	/ %	%
	19	2	10.53	100	5	26.32	100
	19	2	10.53	100	5	26.32	100
-226	19	2	10.53	100	/	/	100

100%

100% 0

100% 95%

11.8.5

-

100%

100%

100%

11.9

11.9.1

1

70 t/a 58333.3t/a

56000t 96%

2

70 t/a

11.9.2

11.9.2.1

2025 8 12

11.9-1

		/	/	/	/
		12.5	15963	0.332	5.30×10^{6}
		12.5	15963	0.075	1.20×10^{6}
		7.2	1585	40	6.34×10^{5}
		7.2	1585	8.46	1.34×10^{5}

0.407μg/m^3

48.46μg/m^3 GB26451-2011 0.1mg/m^3

2025 8 11 12

11.9-2

	/ 3	/ 3	/ 3
	1.18	0.19	1.37
	2.28	0.45	2.73
	3.06	0.52	3.58
	3.08	0.73	3.81
	10.5	2.83	13.33
	4.88	0.76	5.64
	3.91	0.39	4.3
	5.53	0.89	6.42

1 4

3.81ng/m^3

GB26451-2011 6 0.0025mg/m^3

2 4

13.33ng/m^3

GB26451-2011 6 0.0025mg/m^3

11.9.2.2

2025 8 14

11.9-3

α	0.113	0.112	Bq/L
β	0.508	0.539	Bq/L
	0.00012	0.00112	mg/L
	0.00214	0.00549	mg/L
-226	7.57×10^{-2}	7.82×10^{-2}	Bq/L
-228	$<8.00\times10^{-2}$	$<3.02\times10^{-2}$	Bq/L
-210	<1.66	$<5.99\times10^{-1}$	Bq/L
-210	3.06×10^{-2}	2.72×10^{-3}	Bq/L

1 0.00226mg/L

GB26451-2011 2 0.1mg/L

2 0.00661mg/L

GB26451-2011 2 0.1mg/L

11.9.3

11.9.3.1

2025 8 11-13

11.9-4

			X- **10 G /**	**10 G /**
R1		2025-08-11~2025-08-13	11.7	0.19

R2		2025-08-11~2025-08-13	8.5	0.18
R3		2025-08-11~2025-08-13	20.8	0.25
R4		2025-08-11~2025-08-13	16.6	0.23
R5		2025-08-11~2025-08-13	5.5	0.17
R6		2025-08-11~2025-08-13	17.6	0.22
R7		2025-08-11~2025-08-13	9.5	0.13
R8		2025-08-11~2025-08-13	11.5	0.17
R9	100m	2025-08-11~2025-08-13	5.1	0.13
R10		2025-08-11~2025-08-13	4.8	0.16
R11		2025-08-11~2025-08-13	6.8	0.18
R12		2025-08-11~2025-08-13	9.4	0.17
R13	40m	2025-08-11~2025-08-13	5.9	0.17
X-γ				

85~208nGy/h

55~176nGy/h

2

48~94nGy/h

70 /

1 143~245nGy/h

78~157nGy/h

2 500m

135~200nGy/h

3

1 γ

2

11.9.3.2

2025

29~32Bq/m³

2

70 / “ ”

1 3

19~33.1Bq/m³

2 2

11.9~22Bq/m³

3

1 25~36Bq/m³

2

29~32Bq/m³

1995 20

3.3~40.6Bq/m³

11.9.3.3

2025 8 10 15 α β ^{210}Po ^{210}Pb

11.9-6

			B /	**B /**	**-210 B /**	**-210 B /**
Q1		2025.8.10~2025.8.15	0.000249	0.00173	8.50 10^{-5}	1.23×10^{-4}
Q2			0.000315	0.00165	7.94 10^{-5}	1.44×10^{-4}

1 α 0.000249~0.000315Bq/m^3 0.249 0.315mBq/m^3

2 β 0.00165~0.00173Bq/m^3 1.65 1.73mBq/m^3

3 ^{210}Pb 7.94 10^{-5}~8.50 10^{-5}Bq/m^3 7.94 10^{-2} 8.50 10^{-2}mBq/m^3

4 ^{210}Po 1.23×10^{-4}~1.44×10^{-4}Bq/m^3 0.123 0.144mBq/m^3

70 /

1 1

α 1.41 10^{-4}~2.66 10^{-3}Bq/m^3 0.141 2.66mBq/m^3

2 β 5.16 10^{-4}~2.40 10^{-3}Bq/m^3 0.516 2.4mBq/m^3

3 ^{210}Pb 5.19 10^{-5}~6.35 10^{-5}Bq/m^3 5.19 10^{-2} 6.35 10^{-2}mBq/m^3

4 ^{210}Po 0.4 10^{-4}~1.3 10^{-4}Bq/m^3 0.04 0.13mBq/m^3

1 α 0.249 0.315mBq/m^3 0.141 2.66mBq/m^3

2 β 1.65 1.73mBq/m^3 0.516 2.40mBq/m^3

3 ^{210}Pb 7.94 10^{-2} 8.50 10^{-2}mBq/m^3 5.19 10^{-2} 6.35 10^{-2}mBq/m^3

4 ^{210}Po 0.123 0.144mBq/m^3

0.04 0.13mBq/m^3

^{210}P

^{210}P

11.9.3.4

2025 8 10 8 12 6

11.9-7

	2025-08-11	**2025-08-11**	**2025-08-10**	**2025-08-12**	**2025-08-12**	**2025-08-11**
	W1	**W2**	**W3**	**W4**	**W5** **500**	**W6** **1000**
α(Bq/L)	0.005	0.081	0.006	0.091	0.017	0.256
β(Bq/L)	0.092	0.310	0.220	0.114	0.302	0.233
(mg/L)		0.00015		0.00018		0.00326
(mg/L)	0.00005	0.00359	0.00004	0.00068	0.00017	0.00337
-226(Bq/L)	2.80×10^{-2}	3.99×10^{-2}	4.82×10^{-2}	3.03×10^{-2}	4.48×10^{-2}	4.36×10^{-2}
-210(Bq/L)	$<7.04\times10^{-1}$	$<8.85\times10^{-1}$	$<5.99\times10^{-1}$	$<6.18\times10^{-1}$	$<8.96\times10^{-1}$	$<6.16\times10^{-1}$
-210(Bq/L)	9.96×10^{-3}	1.17×10^{-2}	8.77×10^{-4}	3.17×10^{-3}	6.83×10^{-4}	8.80×10^{-3}

1 α 0.005 0.256Bq/L β 0.092 0.310Bq/L

2 3 0.00015 0.00326mg/L

3 0.00004 0.00359mg/L

4 -226 2.80×10^{-2} 4.82×10^{-2}Bq/L

5 -210

6 -210 6.83×10^{-4} 1.17×10^{-2}Bq/L

70 /

5

1 α 0.00152~0.0427Bq/L β 0.02~0.0752Bq/L

2 0.00008~0.00065mg/L

3 4 0.00004~0.00166mg/L

4 -226 0.00865~0.0423Bq/L

5 -210

6 -210 0.013Bq/L

1 α 0.005 0.256Bq/L W6 1000m 0.00152~0.0427Bq/L

2023 1 2021 05 25

6 -210

7 -210 6.83×10^{-4} 1.17×10^{-2}Bq/

2023 1 2021 05 25

-226 18.3~144Bq/kg 2.13~15.3mg/kg

5.6~28.9mg/kg

1 -226 19.4~239Bq/kg

5.16~122Bq/kg

2 1.53~17.1mg/kg

1.93~8.19mg/kg 2.13~15.3Bq/kg

3 5.74~46.5mg/kg

3.04~37.4mg/kg 5.6~28.9Bq/kg

-226

11.9.3.6

2025 8 10

11.9-9

	D2	**D3**
α(Bq/L)	0.015	0.090
β(Bq/L)	0.151	0.256
(mg/L)	0.00083	0.00032
(mg/L)	0.00063	0.00253
-226(Bq/L)	4.74×10^{-2}	4.44×10^{-2}
-210(Bq/L)	$<5.68\times10^{-1}$	$<5.48\times10^{-1}$
-210(Bq/L)	7.84×10^{-3}	9.68×10^{-3}
D1		

1 α 0.015 0.090Bq/L β

0.151 0.256Bq/L GB/T14848-2017 III

α≤0.5Bq/L β≤1.0Bq/L

2 0.00032 0.00083mg/L

0.00063 0.00253μg/L

3 -226 4.44×10^{-2} 4.74×10^{-2}Bq/L -210

7.84×10^{-3} 9.68×10^{-3}Bq/L -210

70 /

4

1 α 0.0108~0.132Bq/L β 0.0527~0.15Bq/L GB/T14848-2017

2 0.00007~0.00039mg/L 0.00002~0.00428mg/L

3 -226 0.00682~0.0563Bq/L

4 -210 -210

1 α 0.015 0.090Bq/L 0.0108~0.132Bq/L β 0.151 0.256Bq/L 0.0527~0.15Bq/L α β GB/T14848-2017 III α≤0.5Bq/L β≤1.0Bq/L

2 0.00032 0.00083mg/L 0.00007~0.00039mg/L

4 0.00063 0.00253mg/L 0.00002~0.00428mg/L

5 -226 4.44×10^{-2} 4.74×10^{-2}Bq/L 0.00682~0.0563Bq/L

6 -210

7 -210 7.84×10^{-3} 9.68×10^{-3}Bq/L 2023 -210 0.5×10^{-3} 9×10^{-3}Bq/L

-210

-226 -210 -210

GB/T14848-2017

III

11.9.3.7

2025 8 11 8 13

11.9-10

	0 0.2										
	2025.8.12	**2025.8.12**	**2025.8.12**	**2025.8.11**	**2025.8.13**	**2025.8.11**	**2025.8.13**	**2025.8.13**	**2025.8.11**	**2025.8.13**	**2025.8.13**
	T1	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**T8**	**T9** **100**	**T10**	**T11**
(μg/g)	14.8	34.0	12.4	55.7	47.6	117	18.0	6.18	6.81	11.8	11.7
(μg/g)	2.98	12.8	9.25	15.5	9.98	23.4	5.15	1.81	3.93	2.82	3.64
-226(Bq/kg)	51.6	146	101	218	165	365	65.3	32.5	65.5	46.6	50.2

12.4~55.7mg/kg
2.98~15.5mg/kg -226 51.6~218Bq/kg
6.18~117mg/kg
1.81~23.4mg/kg -226 32.5~365Bq/kg
3 6.81~11.8mg/kg
2.82~3.93mg/kg -226 46.6~65.5Bq/kg

70 /
10
1 -226 31.7~215Bq/kg
2 3.17~9.96mg/kg
9.16~129mg/kg
3 19.3~51.1mg/kg
4.42~11.2mg/kg -226 58.7~108Bq/kg

1 -226 32.5~365Bq/kg
31.7~215Bq/kg
2 1.81~23.4mg/kg
3.17~9.96mg/kg
3 6.18~117mg/kg
9.16~129mg/kg
4 6.81~11.8mg/kg
19.3~51.1mg/kg 2.82~3.93mg/kg
4.42~11.2mg/kg -226 46.6~65.5Bq/kg
58.7~108Bq/kg

-226

11.9.3.8

γ α β ^{210}Po ^{210}Pb α β -226 -210 -226 -226 -210 -210

α β GB/T14848 2017 III

11.10

11.10.1

70 /

70 / 5 /

18 t/a 70 t/a 52 t/a 65% 45%

45%

11.10.2

2015 52

11.10.3

70 /

11.10.4

1

GB26451-2011 6

0.0025mg/m^3

GB26451-2011 0.1mg/m^3

2

GB26451-2011 2 0.1mg/L

11.10.5

γ α β ^{210}Po

^{210}Pb α β -226 -210

-226 -226 -210

-210

α β GB/T14848 2017 III

11.10.6

11.10.7

70 /

12

12.1

2284 2024 6
2 8 2 2024 21.8
47.55%
2024 GDP 108.81
6.5% 23.6905 2.8% GDP 0.6
33.4903 7.8% GDP 2.4
51.6292 7.7% GDP 3.5 GDP
9.9% 36.1% 54.0% 24.6 30.1 45.3
21.8 30.8 47.4 2024 626478 7.1%
GDP 57.6% 230883 3.2%
142501 3.5% 253094 13.5%

12.2

12.2.1

70
/

12.2.2

70
/

12.2.3

1

2

12.3

13

13.1

13.1.1

1

2

3

4

13.1.2

1

3 5

2

1

2

3

4

5

6

3

1

2

3

4

5

6

7

8

13.1.2

“ ”

13.2

13.2.1

13.2-1

		2024

13.2.2

13.2-2

			LegdB A	1 / 1
		20m	VOCs	1 /
				1 /
			VOCs	
			VOCs	
			VOCs	
			VOCs	

13.2-3

1#	E101.950419705 N27.205039953		pH COD_{Mn}	1 /		
2#	E101.947174222 N27.204335588			1 1	GB14848-2017	

13.2-4

1#		1000m^3	0~0.5m 0.5~1.5m 1.5~3m	1 /	
2#					
3#			0~0.2m		pH

13.3

2024 9

70 /

13.4

13.4.1

2025 7

513424-2025-23-L

13.4.2

1

8

2024 4

7 5 2 2

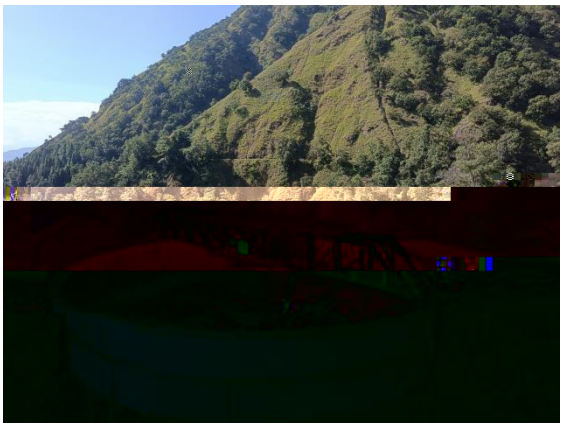
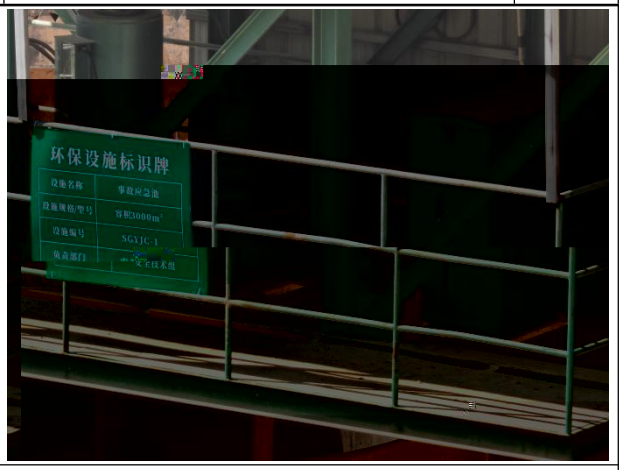
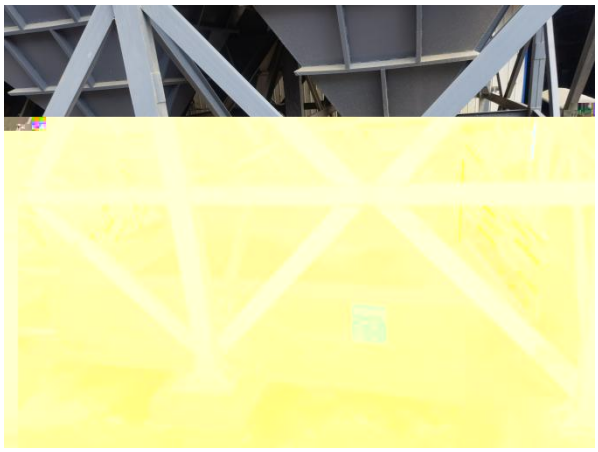
2 4 4 20

600m 1.5km

	
	2350

13.4-1

	1 24m^3 1 1500m^3	1 350m^3 1 24m^3 1 1500m^3	

	4 14m^3	4 14m^3	
		1	
			
			

13.4.3

14

14.1

HJ/T394-2007

1

2 4% 4%

87.55%

2016

3

GB26451-2011 GB16297-1996

94%

4

94%

14.2

VOCs 0.785t/a

VOCs 0.4018t/a<0.785t/a

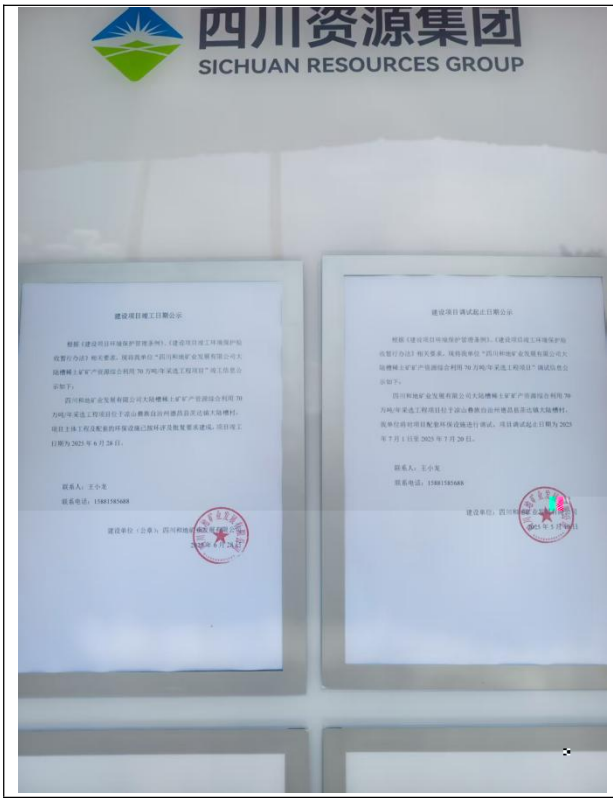
15

15.1

15.2

1

2025 6 28 2025 7 1



2

22

22 100%

15.2-1 70 /

	22403 0.1496km^2 70.48 18 / 70 / 2024 8 19 70 / [2024]99 2025 4 22 91513424213202423W001W 2025 6 28 2025 7 1 2025 7 20						

15.3

22

15.3-1

		%
1		
	17	77.3%
	5	22.7%
	0	0
2		
	16	72.7%
	6	27.3%
	0	0
3		
	22	100%
	0	0
	0	0
4		
	0	0
	22	100%
5		
	22	100%
	0	0
	0	0
6		
	22	100%
	0	0
	0	0
7		
	22	100%
	0	0
	0	0
8		
	21	95.5%
	1	4.5%
	0	0
9		
	0	0
	22	100%
10		

	21	95.5%
	1	4.5%
	0	0
11		
12		
13		

77.3%

22.7% 72.7%

27.3%

100%

100% 100%

95.5%

4.5%

100% 95.5%

4.5%

16

16.1

70 /

70 /

5

/

18 t/a 70 t/a 52 t/a

65% 45% REO

14390t/a

45%

22403 710.3 3.17%

70 /

16.2

16.2.1

70 /

2024

16.2.2

70 /

GB/T14848-2017

16.2.3

1 50m^3

2325m 2185 1 4m^3

2125 1 160m^3 1 90m^3

1 120m^3 2035m 1 1

350m^3

1 350m

16.2.4

2 100m

GB26451-2011

GB16297-1996 DB51/2377-2017

3

GB26451-2011 GB16297-1996 2

DB51/2377-2017

GB37822-2019

16.2.5

GB12348-2008

2

200m

GB3096-2008 2

16.2.6

16.2.7

70 /

16.3

16. 70 /

16.4

95.5% 4.5%

16.5

70 /

0.4018t/a

		70 /									
						615516		15881585688			
		B0932		□ ■ □		2024 9		2025 7			
		70 t/a 70 t/a				70 t/a 70 t/a					
	( )	22403	( )	329.8	%	1.5					
	( )	22403	( )	710.3	%	3.17					
				[2024]99		2024 8 19					
		/		/		/					
				/		/					
	( )	36.5	( )	135	( )	7	( )	20.8	( )	/	( ) 511
		/			/				7920h		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	“ ” (8)	(9)	(11) (12)
		/	/	/	/	/	/	/	/	/	/ / / /

		/	/	/	/	/	/	/	/	/	/	/
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		/	/	/	/	/	/	/	/	/	/	/
		/	2.11	60	/	/	/	0.785	/	0.4018	/	/
		/	/	/	/	/	/	/	/	/	/	/
		/	/	/	/	/	/	/	/	/	/	/
		/	/	/	/	/	/	/	/	/	/	/

1 + - 2 12 = 6 - 8 - 11 9 = 4 - 5 - 8 - 11 + 1 3 /
/ / / / / /