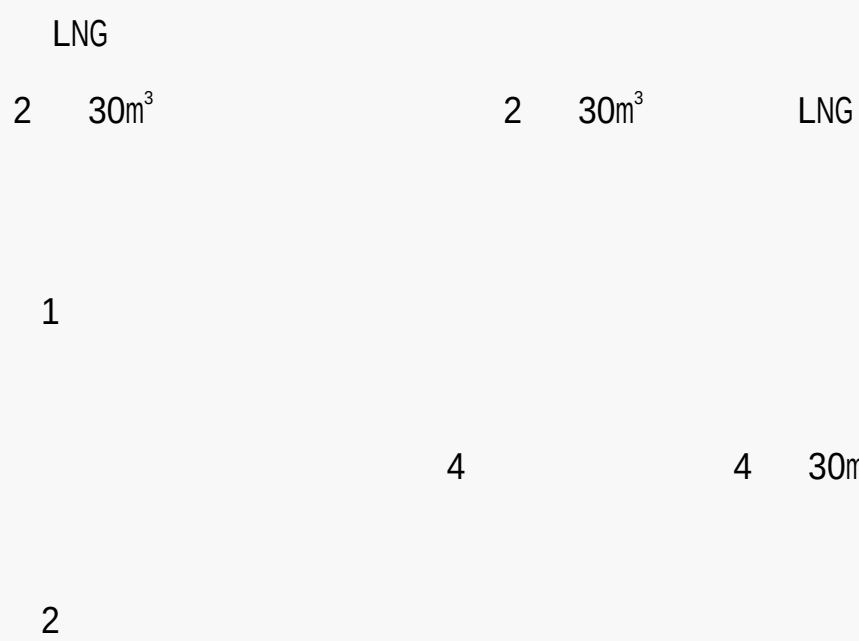

1.1

1.2



2.1

2.2

ĩ

90%

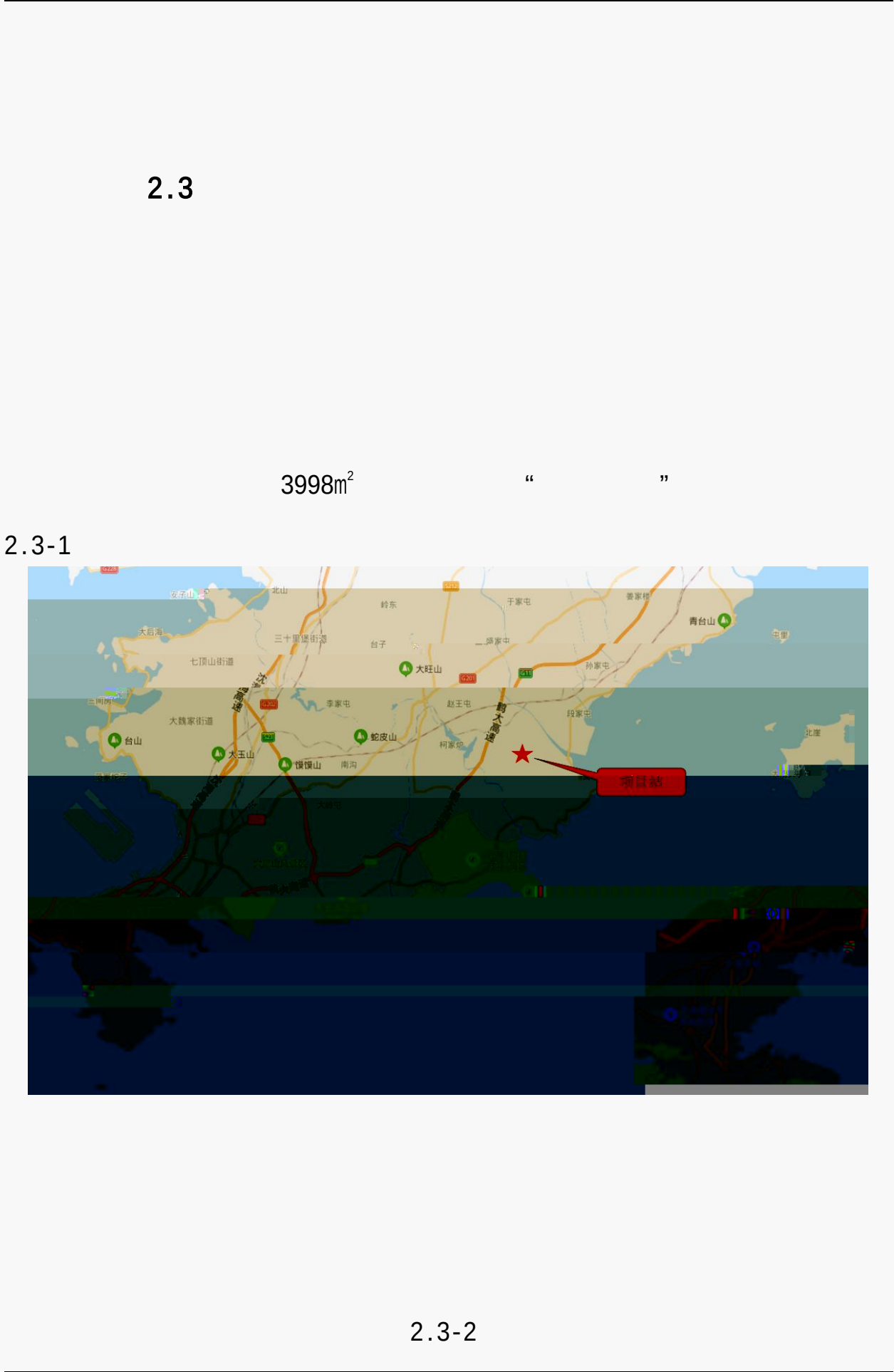
Eî38951^ Õð

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FF

[illegible]

“ ”

[illegible][illegible]

20m LNG
0.5%

9m

2.3-1 2.3-2

10 8 24 30 10~12 35 1
-4.5~-6 -20
180~200
550 950mm
60~70% 12~15% 15~20%
5%
6 6
90~140 35~50
2500~2800
2016 GB5011-2010
7 0.15g

2.4

		4	30m³FF	2	2
1	5#	1	0#		
			$30 \times 2 + 30 \div 2 \times 2$	90m³	60m³LNG
			GB50156-2021		3.0.16
				LNG	

2.5

	15min z	%
1	1.0	100
2	1.0	100
3	1.0	100
4	1.0	100
5	1.0	100
6	1.0	100
7	1.0	100
8	1.0	100
9	1.0	100
10	1.0	100
11	1.0	100
12	1.0	100
13	1.0	100
14	1.0	100
15	1.0	100
16	1.0	100
17	1.0	100
18	1.0	100
19	1.0	100
20	1.0	100
21	1.0	100
22	1.0	100
23	1.0	100
24	1.0	100
25	1.0	100
26	1.0	100
27	1.0	100
28	1.0	100
29	1.0	100
30	1.0	100
31	1.0	100
32	1.0	100
33	1.0	100
34	1.0	100
35	1.0	100
36	1.0	100
37	1.0	100
38	1.0	100
39	1.0	100
40	1.0	100
41	1.0	100
42	1.0	100
43	1.0	100
44	1.0	100
45	1.0	100
46	1.0	100
47	1.0	100
48	1.0	100
49	1.0	100
50	1.0	100
51	1.0	100
52	1.0	100
53	1.0	100
54	1.0	100
55	1.0	100
56	1.0	100
57	1.0	100
58	1.0	100
59	1.0	100
60	1.0	100
61	1.0	100
62	1.0	100
63	1.0	100
64	1.0	100
65	1.0	100
66	1.0	100
67	1.0	100
68	1.0	100
69	1.0	100
70	1.0	100
71	1.0	100
72	1.0	100
73	1.0	100
74	1.0	100
75	1.0	100
76	1.0	100
77	1.0	100
78	1.0	100
79	1.0	100
80	1.0	100
81	1.0	100
82	1.0	100
83	1.0	100
84	1.0	100
85	1.0	100
86	1.0	100
87	1.0	100
88	1.0	100
89	1.0	100
90	1.0	100
91	1.0	100
92	1.0	100
93	1.0	100
94	1.0	100
95	1.0	100
96	1.0	100
97	1.0	100
98	1.0	100
99	1.0	100
100	1.0	100

	15min z	%
1	1.0	100
2	1.0	100
3	1.0	100
4	1.0	100
5	1.0	100
6	1.0	100
7	1.0	100
8	1.0	100
9	1.0	100
10	1.0	100
11	1.0	100
12	1.0	100
13	1.0	100
14	1.0	100
15	1.0	100
16	1.0	100
17	1.0	100
18	1.0	100
19	1.0	100
20	1.0	100
21	1.0	100
22	1.0	100
23	1.0	100
24	1.0	100
25	1.0	100
26	1.0	100
27	1.0	100
28	1.0	100
29	1.0	100
30	1.0	100
31	1.0	100
32	1.0	100
33	1.0	100
34	1.0	100
35	1.0	100
36	1.0	100
37	1.0	100
38	1.0	100
39	1.0	100
40	1.0	100
41	1.0	100
42	1.0	100
43	1.0	100
44	1.0	100
45	1.0	100
46	1.0	100
47	1.0	100
48	1.0	100
49	1.0	100
50	1.0	100
51	1.0	100
52	1.0	100
53	1.0	100
54	1.0	100
55	1.0	100
56	1.0	100
57	1.0	100
58	1.0	100
59	1.0	100
60	1.0	100
61	1.0	100
62	1.0	100
63	1.0	100
64	1.0	100
65	1.0	100
66	1.0	100
67	1.0	100
68	1.0	100
69	1.0	100
70	1.0	100
71	1.0	100
72	1.0	100
73	1.0	100
74	1.0	100
75	1.0	100
76	1.0	100
77	1.0	100
78	1.0	100
79	1.0	100
80	1.0	100
81	1.0	100
82	1.0	100
83	1.0	100
84	1.0	100
85	1.0	100
86	1.0	100
87	1.0	100
88	1.0	100
89	1.0	100
90	1.0	100
91	1.0	100
92	1.0	100
93	1.0	100
94	1.0	100
95	1.0	100
96	1.0	100
97	1.0	100
98	1.0	100
99	1.0	100
100	1.0	100

$\frac{1}{2} \frac{1}{2} \frac{1}{2}$

$\frac{1}{2} \frac{1}{2} \frac{1}{2}$

$\frac{1}{2} \frac{1}{2} \frac{1}{2}$

[illegible]

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2.5.1-3

2.5.1-4

4

SF

0.5m

2.6

10kV

160kVA

1 1

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1

4mm

$10^9 \Omega$

2

3

4

4		4	200L/min N=0.75HP	
5		1	15kVA	

3.1

2015

2022

8 2023 1 1

3.1-1

				CAS		UN				
1	2	2* 1B 1 2 2	3	86290-81-5	1630	1203		-46	AT3	
2		, 3	3	68334-30-5	1674	1202	/	45 60	AT3	

3.2

3.2-1

	37
	29

3.3

3.3-1

3.3-1

1					
2					
3					
4					
5					
6					
7					

3.4 “ ” .3

C

PRC—WDA'YS# ½

M

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4-1

1		
2		
3		

5-1

5-1

1

2

3

4 G.M

6.1

GB6441-1986

GB/T13861-2022

6.1-1

6.2

· ·

6.2-2

1

2

3

4

5

6

7

G · M

FF

30m³

2

30m³

2

G · M

30m³

(TNT)

TNT

,

$$Q_{\text{TNT}} = C_0 \cdot V \cdot \rho \cdot k \cdot HC / q_{\text{TNT}}$$

Q_{TNT}

TNT

kg

6.3-1

P MPa		P MPa	
0.02 0.03		0.05 0.10	
0.03 0.05		>0.1	

6.3-4

P ₀ /MPa		m	P ₀ /MPa		m
0.005 0.006		17.75~16.71	0.06 0.07		7.75~7.37
0.006 0.015		16.71~12.31	0.07 0.10		7.37~6.54
0.015 0.02		12.31~11.18	0.10 0.20		6.54~5.19
0.02 0.03		11.18~9.77	0.20 0.30		5.19~4.53
0.03 0.05		9.77~8.24			

2

6.3-3 6.3-4 0.02MPa

0.005MPa 11.18m

17.75m

3

7.1

FF

1

7 ,

0.15g

2

10

8



7.2

FF

7.2-1

1			
2			
3			
4		FF	
5			
6			
7		0.5m	

8.1.

8.1-1

1		GB50156-2021 4.0.1		
2	CNG	GB50156-2021 4.0.2	LNG	
3	4.0.4	GB50156-2021 4.0.4	3.2-1	
4	5.0.13-2 5.0.13-1	GB50156-2021 5.0.13	3.2-2	
5		GB50156-2021 5.0.1		
6		GB50156-2021 5.0.2		
7	2.2m	GB50156-2021 5.0.12		

8.2

1				4.0.4
4.0.4				
2				5.0.2
	4m			6m
3				5.0.3
4				5.0.5
	“	”	“	”
5				5.0.6 5.0.8
	3m			
6				5.0.10
				4.0.4
4.0.8				
	“	”	“	”

7

5.0.11

	A=0.04V _t	
	A——	
	V _t ——	m ³
3		6.1.8
		13.2.15
	100Ω	
4		6.1.9
5		6.1.10
1	80mm	4mm
2		
3		
4		
6		6.1.11
7		6.1.12
	0.5m	
	0.9m	

17		6.3.2
18		6.3.3
19		6.3.4
1		
2		
100mm		
3		
20		6.3.7
1		
2		
	1	50mm
3		
4		1.0~1.2
5		
		25mm
21		6.3.8
1		
2		

3

50mm~100mm

45 °

T

3	4mm	
4		
4mm		
5		$10^8 \Omega \cdot m$
	$10^{10} \Omega$	
6		100kV
26		6.3.13
	$10^8 \Omega \cdot m$	$10^{10} \Omega$
27		6.3.14
28		6.3.15
	2%	
	1%	
29		6.3.16
		6.3.14
		1%
30		6.3.17
	0.4m	
	0.2m	100mm

5		5‰	
6			
7		5mm	
36		6.5.6	
3.5mm			
37			
4.18		1.5	
8.2.3			
1			
12.1.1			
2	2	2 5kg	1 5kg

GB50140

3

GB50058

13.1.8

IP44

$\frac{g}{10}$ $\frac{g}{10}$

13.2.2

4Ω

$\frac{5}{5}$

11

13.2.4

$\frac{5}{5} \cdot \frac{e}{e}$

$\frac{g}{g}$

12

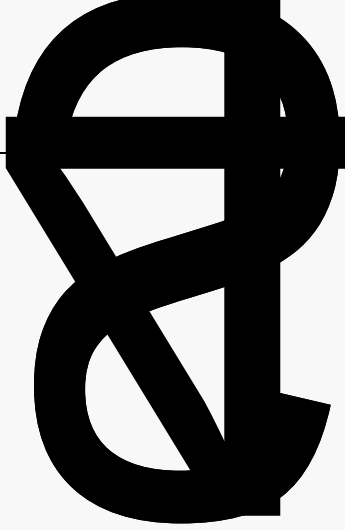
13.2.6

1

$2^{\frac{5}{5}}$

$\frac{1}{1}$

14



TN-S

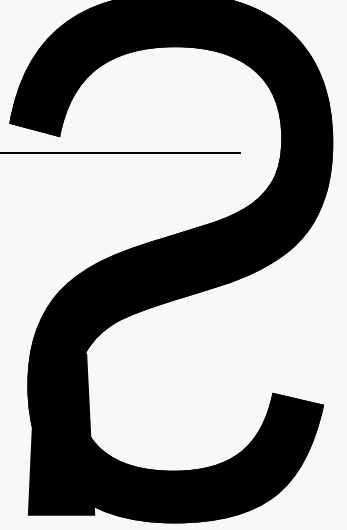
380V

13.2.8



13.2.9

TN-C-S



380/220V

21		13.2.15	
	100 Ω		
22		13.2.16	LPG
LNG			
	1		
23		13.5.1	
24		13.5.2	
1			
2			
25		13.5.3	
26		13.5.4	
27		14.2.2	
	, m "		

2)			4.5m	
3)			2m	
4)				
	GB50068			
5				
		GB50009		
6				
GB50011-2010[2016		]		
7	CNG	LNG		
8				
28			14.2.3	
1			0.15m~0.20m	
2			1.2m	
3				0.6m
4				
100mm		0.5m		
29			14.2.9	

1

2

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8.3

1 8.3-1

1 GB/T18668 8

5

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XF/T3004-2020

9.2.1

4.5m

5

XF/T3004-2020

9.5.3

6

XF/T3004-2020

9.4.5

“

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[2016]24

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2.3

1

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

S...

q1 q2... qn

t

Q1 Q2...Qn

t

1

1B

2

2

1630 UN 1203 1257

E10

 Ω



3

4



2 k ÷

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ñ 4
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3



1

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3

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3.1.2

3.1.2.1

1

ṛ q m "

3.1-1

1

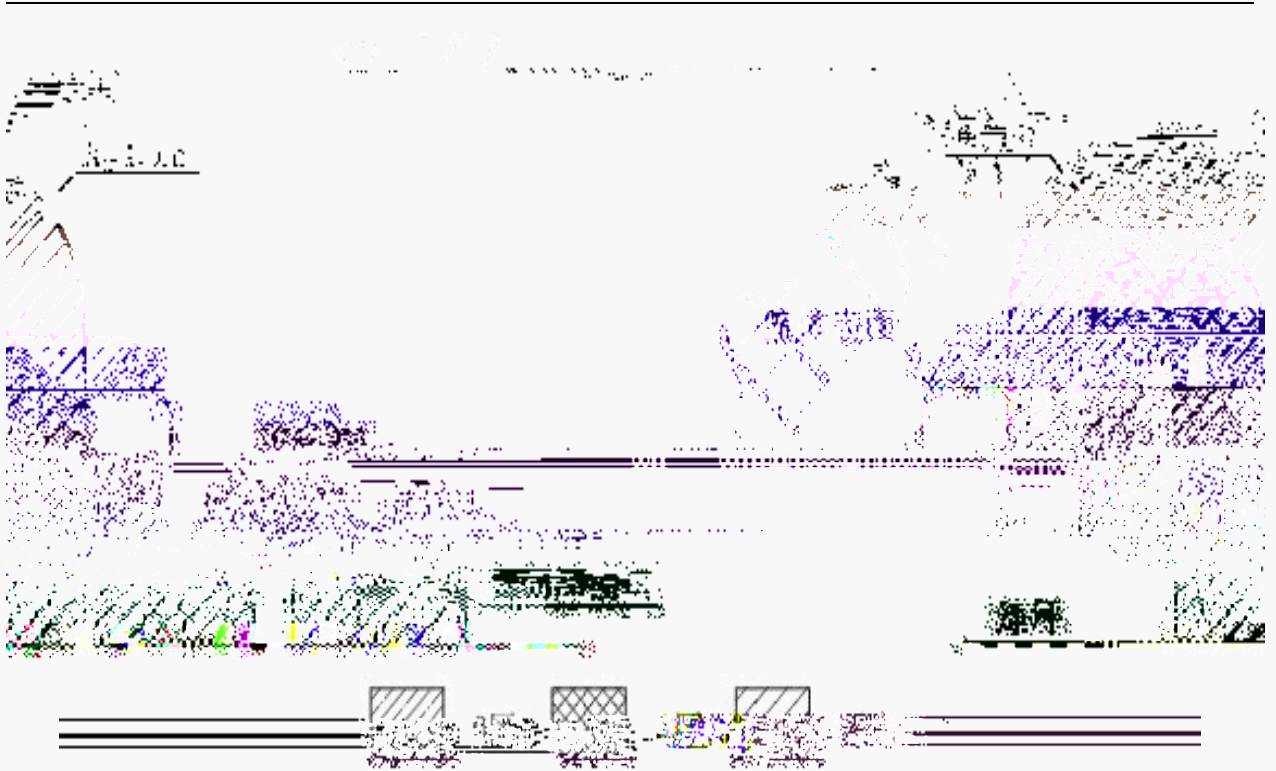
1

2

3m

0.15m

1.5m



3

1

0

2

0.75m

0.5m

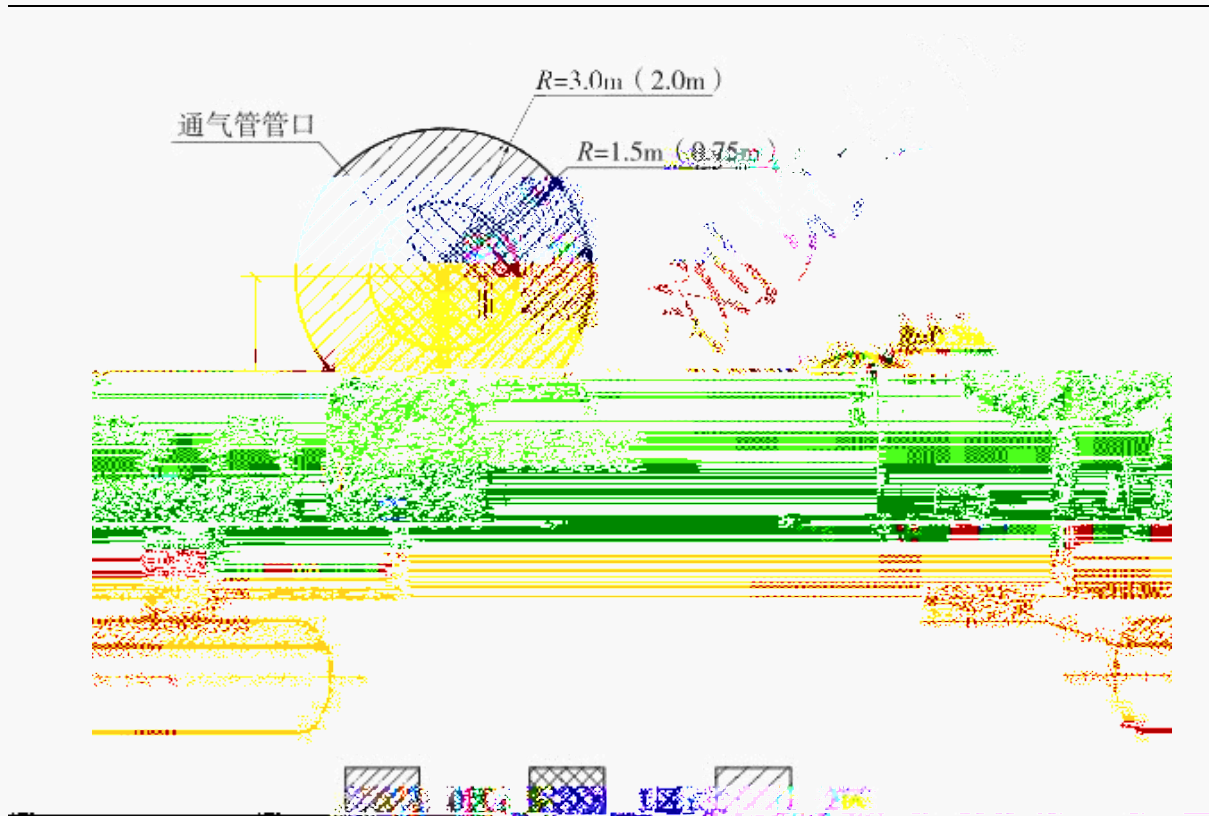
1

3

' "

1.5m

1m



3.1.2.2

1

1

2

2

380/220V

3

4

3.1.3

60m³ 0.75 ,

45t	60m ³	0.89	,	53.4t
3.1-1				

	Q	q	q/Q
1	200	45	0.225
2	5000	53.4	0.0107
			0.2357<1

2

100%

80%

20%

$1.4 \times 10^{12} \Omega$

3

2.2Ω

$30 \times 10^3 \Omega$

3.1.4.2

1

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3.1.4.3

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20m

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3.1.4.4

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3

4

3.1.4.5

10

40%

10%

8.3%

3.2

3.2.1

2014

3.2-1

3.2-2

2014

3.2-1

3.2-2

2014

3.2-1

3.2-2

		5	57
	H=10m	10 1.0H	54
		5	76
		3	57
	H=10m	7.5 0.75H	54
		5	73
		5	53.2
	H=10m	6.5	50
		5	39
		3	41.2
	H=10m	6.5	38
		5	39
		5	57
	H=10m	6.5	54
		5	76
		3	57
	H=10m	6.5	54
		5	76
GB50156-2021		4.0.4	

	0.5	0.6	0.5	0.57	-	-	-	-	-	-	-	-
	0.5	0.57	0.5	0.6	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	3	7
	-	-	-	-	-	-	-	-	-	-	2	7
LNG	6	67.4	6	62.9	8	65.2	6	64.2	6	30	6	61.9
LNG	4	43.9	4	41.9	8	43.8	6	43.8	2	3	6	43.7
LNG	10	67.4	8	62.9	8	65.2	8	64.2				

8

8

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| | 1. |
| | 2. |
| | 3. |
| | 4. |
| | 5. |
| 1. | 1. |
| 2. | |
| 3. | 2. |
| 4. | 3. |
| | 4. |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 1. | 1. |
| 2. | 2. |
| 1. | 1. |

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4.1				
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2021	9	1		
2	[2013]			
2014	1	1		
3	[1998]			
	[2008]		[2019]	[2021]
	2021	4	29	
4	[2014]			
	2015	1	1	
5	[2017]			
	2018	1	1	
6	[2018]			
2019	1	1		
7	[2018]			
	2019	10	26	
8	[2007]			
	2007	8	30	
9	[2001]			
]		[2011]		[2016]
		[2017]		[2018]
	2018	12	29	
10	344 591			

645 2013 12 7

11 708 2019 4 1

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[2020]3

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[2016]39 2016 9 23

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4.2

1 GB2894-2008

2 H

GB2893-2008

3 GB50058-2014

4 GB15603-1995

5 E10 GB18351-2017

6 AQ3045-2013

7 GB/T 50610-2010

8 GB12158-2006

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SHT 3177-2015

10 -1

GBZ2.1-2019

11 2

GBZ 2.2-2007

12 7

GB30000.7 -2013 -

203- GB/T9819 T

17		GB50140-2005	
18	2018	GB50016-2014	
19		GB50057-2010	
20		GB6441-1986	
21		GB50156-2021	
22		2	
		GB/T 22380.2-2019	
23		3	
		GB/T 22380.3-2019	
24		AQ/T9007 2019	
25		GB/T13861-2022	
26			GB/T
29639-2020			
27		GB50517-2010	
28		GB 50395-2007	
29	1	GB/T 30040.1-2013	
30	3		GB/T
30040.3-2013			
31	4		
		GB/T30040.4-2013	
32	5		GB/T
30040.5-2013			
33	6		
GB/T 30040.6-2013			
34	7		
		GB/T 30040.7-2013	

35	AQ3009-2007	
36	GB/T50759-2022	
37	(GBZ 230-2010)	
38	GB18218-2018	
39	GB 50343-2012	
40	1	
	GB/T22380.1-2017	
41	2	GB/T
30040.2-2013		
42		SH/T3413
-2019		
43	GB50052-2009	
44	GB50054-2011	
45	GB50217-2018	
46	GB/T50065-2011	
47	GB/T13869-2017	
48	GB19147-2016	
49	GB/T13955-2017	
50	GB30077-2013	
51	XF/T 3004-2020	
52	GB55036-2022	

1	2021	11
2	2020	34
3		2023
2023001340		
4		
5		