..... 1

1 . - Ŏ Ŏ 1

1 ĩ . . . . . .

1 . 2 ŭ ↕ 7

1.3 à ᴇ 7

1.4 10

1.5 14

1.6 16

2 18

2.1 18

2.2 19

2.3 20

2.4 ı ı 24

2.5 ŭ 31

2.6 ⁼ № 32

3 ŭ 34

3.1 ᴇ 34

3.2 ŭ 38

3.3 ʜ ƀ 44

3.4 45

3.5 45

4 ŭ 47

4.1 Ŧ 47

4.2 53

4.3 54

5 ᴇ 55

5.1 55

5.2 55

5.3 Е 55
5.4 Е 60
6 Ь № 61
6.1 61
6.2 64
6.3 67
7 Ь № 68
7.1 68
7.2 Ŋ 68
7.3 Ь № 68
7.4 70
8 Ь № 71
8.1 ŭ 71
8.2 Ŋ 71
8.3 Ь № 72
8.4 73
9 74
9.1 74
9.2 74
9.3 76
10 Ь № 77
10.1 77
10.2 Ь № 79
10.3 94
11 96
11.1 ŭ Ь № 96
11.2 β 96
11.3 97
11.4 97
11.5 97

12 ᵃᵃ ѣ └ 98
12.1 ᵃᵃ 98
12.2 ᵃᵃ 98
12.3 └ 99
12.4 100
13 Ѩ ѹ̆ 101
13.1 Ѩ 101
13.2 Ѩ 101
13.3 113
14 ѹ̆ 115
14.1 115
14.2 115
14.3 118
14.4 119
14.5 119
15 ̀Е ∧ 120
15.1 ̀Е ∧ 120
15.2 ѣ 120
15.3 ѣ № 120
15.4 ̀Е ∧ ї̆ 122
16 ѣ 124
16.1 124
16.2 № 125
16.3 126
16.4 ᵃᵃ ѹ̆ └ 127
16.5 Ѩ ѹ̆ 127
16.6 ̀Е ∧ 127
16.7 127
16.8 128

طي

طي1 β طي

طي2 طي

طي3 طي

طي4 β طي

طي5 № طي

طي6 Ь ºº β ˜ طي

طي7 β طي

Ð

(1)

(2) ê ˜ ؾ ؾ ؾ E

Ì ¨ ـا [2010]714„ ˜

(3) ê ˜ ؾ ؾ ؾ Ì

[2012]138„ ˘ ا طى ˘ 2012.5.24˜

(4) طى ê طى ˜ ؾ ؾ ؾ

Ì Ř 2011 ř 2875„ ˘ 2011.12.8˜

(5) ê طى ˜ ؾ ؾ ؾ ˥

Ì Ř 2012 ř 1914„ ˘ 2012.6.28˜

(6) ê ˜ ؾ ؾ ؾ

Ì [2012]600„ ˘ 2012.11.7˜

(7) ê ˜ ؾ ؾ ؾ Ì طى

[2012]88„ ˘ 2012.4.28˜

(8) ê ˜ ؾ ؾ ؾ Ì

[2011]156„ ˘ 2011.5.30˜

(9) ê ـا ˜ ا ؾ ؾ ؾ ˆ ˜

Ì ˥ [2016]251„ ˘ 2016.9.30˜

(10) ê Ht ˜ ؾ ؾ ؾ

Ì 2010.7.6˜

(11) ê ˜ ؾ ؾ ؾ ŭ ˜

Ϊ̀ [2010]100„ ˘ 2010.10.19˜

(12) ê ˜ ϒϊ̂ ̂ ʒ ϒ Ϊ̀ ϒ [2010]224„ ˘ 2010.10.19˜

(13) β Ь ĭ ʼE„ ϒ ϒ

(14) ϒ

(15) β Ь ϒ ϒ

(16) Ϩ ä̀

(17) ̂ ϒ ˜

(18) ϒϊ̂ ̂ ʒ ϒ

̂ ϒ ʼE„ ˘ 2018.7˜

(19) ʼE ʌ Ь

(20)

(21)

(22)

Ь̂ ̂ Ϩ Ь

ʔʕ̂ʕ̂ ʒ ʔ β ˘ ʕ̂ʕ̂ ˜ 29.5km˘ Й 1.9km˘ Й ˚ ч 1013.5km Â ʒʒ ч к 114°32′59″ ˝ 30°39′28″ Â

2011 12 8 ˘ ۷ طى ۲ Є 2011 Э 2875 ˝ ê طى ˜ ʔʕ̂ʕ̂ ʒ ʔ Ì̀ Ƣ ʔʕ̂ʕ̂ ʒ ʔ ˘ 8 5000

β˘ 140 Â **Ľ à № Ŀ ↕˘**

ᾧ ì̀ 4 β˘ 70 Â

2011 12 ˘ ʿE˝ ʜ ˩

ʿE˝ L ê ʔʕ̂ʕ̂ ʒ ʔ

Ì̀ 2012 5 ˘ ۷ طى ۲ Є 2012 Э 138˝ ê ˜

ʔʕ̂ʕ̂ ʒ ʔ Ì̀ ì̀ Â

ŭ Ð ʔʕ̂ʕ̂ ʒ ʔ ч Ľ 5000D

β 8 ˆ ʿI 10000 ˜˘ 1034 Â

99.6 ˘ 37.8 Â Ƹ

ч 144 TEU ÂŁ

ʔʕ̂ʕ̂ ʒ ʔ ˘ Ƣ

˘ Ƣ ʔ ˥ Ь Ƹ ˘ طى

ʔʕ̂ʕ̂ ʒ ʔ Ŧ №

ˆ Є 2012 Э 1914˝ ê ʔʕ̂ʕ̂ ʒ ʔ ˥

Ì̀˘ ᾧ ˘ Ŧ˙ Ľ 4 5000

β ŭ ˘ ч 563m˘ ч 74 ŁÂ

2012 11 ۷ طى ۲ ê ˜ ʔʕ̂ʕ̂

ʒ ʔ Ì̀ [2012]600˝ ˜

˘ ч˙ 4 5000 β ŭ

˘ ч 563m˘ ч 74 Â

طى ˥

Ð ˘ ʼEᵥ₁ 2013 3 ˘

2015 12 ˘ 4 5000DWT ß ʼI 10000

˜ ŭ ˘ ฦ 563×30m˘ ฦ 3 Ь Ƛ

˘ ฬ 74 TEUʼ า ฦ ฬ 45.36ʼE ˘

13 ˆ ì ˜ ầ 4 ŭ Â

ฦ่ฦ่ ฐ า 4 β

˘ Â ط ˘

ŭ ˘ Ƛ

˘ Ь í Ð˘ ɾ ฐ ầ

Ŧ ˘ ฦ่ฦ่ ฐ า ˜

Â

2018 6 ˘ ฦ่ฦ่ ฐ า

ʼEᵥ₁ ฦ่ฦ่ ฐ า

Â 0 Ƛ˘ ʼEᵥ₁ ˜ ˘

˘ ,

ฦ ʼEᵥ₁ Ƛ

˘ ˘ Â ฦ่ฦ่ L

ˆ ˜ Â

ʼEᵥ₁ Ғ ˘ 2018 7 19

า h ˜ ฦ่ฦ่ ฐ า

˘ Â Ƛ˘ β ฦ

ầ ʼ ʼEᵥ₁

ầ ˜Ḥ Â

า ˘

ฦ ʼEᵥ₁ ˘ ط ºº

ºº ˘ Â

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1.1

1.1.1

ˆ 1˜ ê ˆ طى Ì 2014 4 24 ˘ 2015 1 1 ~’

ˆ 2˜ ê ˆ طى ˆÌ 2017 6 27 ˘ 2018 1 1 ~’

ˆ 3˜ ê ˆ طى ˆÌ 2015 8 29 ˘ 2016 1 1 ~’

ˆ 4˜ ê ˆ طى Ì 1997 3 1 ~’

ˆ 5˜ ê ˆ طى ˆÌ 2016 11 7 ˘ 2016 11 7 ~’

ˆ 6˜ ê ˆ طى E Ì 2016 7 2 ˘ 2016 9 1 ~’

ˆ 7˜ ê Ì 2017 7 16 ˘ 2017 10 1 ~’

ˆ 8˜ ê ˈ ˆÌ طى [2017]4-¨ ˘ 2017 11 22 ˜

ˆ 9˜ ê ˜ ˜ Ì [2000]38-¨ ˘ طى ˘ 2000.2˜’

ˆ 10˜ ê ˈ ˆÌ ɔ 2003 5-¨ ˘ 2003 6 1 ~’

ˆ 11˜ ê ˆ طى ’ Ì 2015 ~’

ˆ 12˜ ê ˆ طى Ì 2017 10 7 ˘ 2017 10 7 ~’

ˆ 13˜ ê ˜ Ь ˜ Hɯ ˆÌ ˈ [2016]1493 -¨ ˘ ˈ ˋE ˆ˘ 2016 8 11 ˜

ˆ 14˜ ê E ˋE ʌ Ь ˈ Ì [2006]28 -¨ ˘ طى ˘ 2006 3 ~’

^ 15˜ ê ˜ ˅ ê ʒ Ʉ ʒ β Ʉ Ð ˹ ^ ˜ Ì̃

Ì̃ [2015]4-ⷷ ˘ ط ˘ 2015 1 9 ˜’

^ 16˜ [2012]77 -ⷷ ê ˜ ̇ E

Ì̃

^ 17˜ [2012]98 -ⷷ ê ˜ ® ̇ Ʉ E Ì̃

^ 18˜ Ð 39-ⷷ ê ط ˥ ϒ̂ Ì̃ 2016 3 30

˩ ˘ 2016 8 1 ˜’

^ 19˜ ê ˅ ط Ì̃ (2005

11-ⷷ Ð˘ 2005 8 20)’

^ 20˜ ˅ ط [2004]314 -ⷷ ê ˜

Ì̃

^ 21˜ ê ̈ Ì̃ 1997 12 3 ˜’

^ 22˜ ê ˹ ʻE ˥ ˜ ̈ ˊ ϒ̂ Ì̃

^ ˹ [2000]10-ⷷ ˜’

^ 23˜ ê ˹ ʻE ˥ ˜ ˊ ϒ̂

ϒ̂ ˜ Ì̃ ˹ [2000]74-ⷷ ˜’

^ 24˜ ê ˹ ʻE ˥ ˜ ˅ ̈ ϒ̂

№ Ì̃ ˹ [2011]130-ⷷ ˜’

^ 25˜ ê ˹ ʻE ˥ ˜ ˊ ϒ̂

Ì̃ ˹ [2013]129-ⷷ ˜’

^ 26˜ ê ˹ ʻE ˥ ˜ ˅ ˊ ϒ̂ Ì̃

^ ˹ [2013]135-ⷷ ˜ Â

1.1.2

^ 1˜ ê E ↕ - ↕ Ì̃ HJ2.1-2011˜’

^ 2˜ ê E ↕ - Ì̃ HJ2.2-2008˜’

^ 3˜ ê E ↕ - Ì̃ HJ/T2.3-93˜’

^ 4˜ ê E ↕ - Ì̃ HJ2.4-2008˜’

^ 5˜ ê E ↕ - Ì̃ HJ19-2011˜’

^ 6˜ ê - Ì̃ HJT394-2007˜’

^ 7˜ ê - ’ Ì̃ HJ436-2008˜’

^ 8˜ ê ʾ E Ì JTJ226-97˜’

^ 9˜ ê ʾ Ì JTS149-1-2007˜’

^ 10˜ ê E ↕ Ì HJ/T 169-2004˜’

^ 11˜ ê ʾ ̂,̂ Hʊ Ì JT/T 451-2017˜’

^ 12˜ ê ʅ № Ì (HJ/T 338-2007)’

^ 13˜ ê ʒ Hʊ Ð № Ì HJ941-2018˜ Â

1.1.3

1.1.3.1

^ 1˜ ê ˜ ʅ̂ ̂ ʒ ʅ Ì [2012]138-¨ ˘ ۱ طی ˘ 2012.5.24˜’

^ 2˜ طی ê طی ˜ ʅ̂ ̂ ʒ ʅ Ì Ř 2011 ř 2875-¨ ˘ 2011.12.8˜’

^ 3˜ ۱ طی ê ˜ ʅ̂ ̂ ʒ ʅ Ì Ř 2011 ř 97-¨ ˜’

^ 4˜ ê طی ˜ ʅ̂ ̂ ʒ ʅ ˥ Ì Ř 2012 ř 1914-¨ ˘ 2012.6.28˜’

^ 5˜ ۱ طی ê ˜ ʅ̂ ̂ ʒ ʅ ˥ Ì Ř 2012 ř 119-¨ ˜’

^ 6˜ ê ˜ ʅ̂ ̂ ʒ ʅ Ì [2012]600-¨ ˘ 2012.11.7˜’

^ 7˜ ê Hʊ ˜ ʅ ̂ ̂ ʒ ʅ Ì 2010.7.6˜’

^ 8˜ ê ˜ ʅ̂ ̂ ʒ ʅ ʊ̆ ˜ Ì [2010]100-¨ ˘ 2010.10.19˜’

^ 9˜ ê ˜ ʅ̂ ̂ ʒ ʅ Ì ˥ [2010]224-¨ ˘ 2010.10.19˜’

^ 10˜ ê ˜ ʅ̂ ̂ ʒ ʅ Ì طی [2012]88-¨ ˘ 2012.4.28˜’

^ 11˜ ê ˜ ʅ̂ ̂ ʒ ʅ Ì [2011]156-¨ ˘ 2011.5.30˜’

ˆ 12˜ ê ˆ ˜ ˆ ˆ˜ˆ˜ ˜ ˆ ˆ
˜ Ì ˆ [2016]251˜¨ ˘ 2016.9.30˜’

ˆ 13˜ ê ˆ ˜ ˆ˜ˆ˜ ˜ ˆ ˜
Ì ¨ ˆ˘ [2017]18˜¨ ˘ 2017.1.18˜

1.1.3.2

ˆ 1˜ ê ˆ˜ˆ˜ ˜ ˆ Ì Ħ ˘
˘E˜¨ ˘ 2011.12˜’

ˆ 2˜ ê ˆ˜ˆ˜ ˜ ˆ Ì
˘ 2011.3˜’

ˆ 3˜ ê ˆ˜ˆ˜ ˜ ˆ ˆ Ì Ħ
˘ ˘E˜¨ ˘ 2011.6˜’

ˆ 4˜ ê ˆ˜ˆ˜ ˜ ˆ ˆ Ì
ˆ Ħ ˘ ˘E˜¨ ˘ 2011.12˜’

ˆ 5˜ ê ˆ˜ˆ˜ ˜ ˆ Ì
Ħ ˘ ˘E˜¨ ˘ 2012.9˜’

ˆ 6˜ ê ˆ˜ˆ˜ ˜ ˆ طي Ì
Ħ ˘ ˘E˜¨ ˘ 2013.12˜’

ˆ 7˜ ê ˆ˜ˆ˜ ˜ ˆ
Ì ˆ ˘ 2013 2015˜’

ˆ 8˜ ê ˆ˜ˆ˜ ˜ ˆ
Ì طى ºº ºº ˘ 2016.8˜

ˆ 9˜ ê ˆ˜ˆ˜ ˜ ˆ
Ì طى ºº ºº ˘ 2018.7˜

ˆ 10˜ ê ˆ˜ˆ˜ ˜ ˆ
Ì ˘ 2016.6˜’

ˆ 11˜ β ˆ 2015.12˜

ˆ 12˜ ê ˆ˜ˆ˜ ˜ ˆ Ħ Ð
Ì

ˆ 13˜ ê ˆ˜ˆ˜ ˜ ˆ Ì 2016.11˜’

ˆ 14˜ ê ˆ˜ˆ˜ ˜ ˆ Ì

ê - ʼ Ì ê ˈ

Ì ˘ ê ε ↕ Ì ʼ

ƀ ˘ ʼE ʌ ʼ

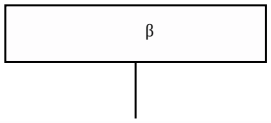
ƲB ˘ ʔ ч h ʼ

Б № ь Ŧ ʼ

б ê ε ʼE ʌ ь ˈ Ì ˘ ʼE ʌ ŭ

˘ “ʼE ʌ ” Â

طي1.3-1 Â



طي 1.3-1 ʼ

[illegible] pH [illegible] COD [illegible] BOD_5 [illegible]

[illegible] TSP [illegible] PM10 [illegible] SO2 [illegible] NO2 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

1.4

1.4.1

[illegible] 2013 [illegible] 129 [illegible]

[illegible] GB3095-2012 [illegible]

[illegible] [2000]10 [illegible]

[illegible] [2000]74 [illegible]

[illegible] GB3838-2002 [illegible]

[illegible] 2013 [illegible] 135 [illegible]

1.4.2

ตามมาตรฐานแห่งชาติ

ฉบับ ๑ ๑ ๑

1.4-2

1.5.2.2

ʃ

ŵ

ê Ì (GB3552-83) ˇ Â

1.4-5 Â

1.4-5 ê Ì GB3552-83˜

˜		ˇ
1		≤15 mg/L
2	ı	BOD_5≤50 mg/L
3		SS≤150 mg/L
4	ˇ ˙ ˚	

ˈ Â

Ŷ ˥ ˚

à ı

Ƶ ˥ ı ˘ Þ ˘ Ƭ’ ê ˈP

Ì GB/T 18920-2002˜ “ ı ” Â ˥ ˚ ˇ

Ƶ ê Ì (GB8978-1996) Ƶ˜

˥ ˘ Ƶ Â 1.4-6 Â

1.4-6 ê Ì GB8978-1996˜

˜		ê Ì ˆ GB8978-1996˜ ˆ mg/L˜	ê ˈP Ì GB/T 18920-2002˜ˆ mg/L˜
1	pH	6~9	6~9
2	COD	500	
3	BOD_5	300	20
4	SS	400	-
5		20	-
6		-	20

Þ

˘ E ê ʒ ʒ Ì

(GB12348-2008)3 ˘ ê Ì (GB12523-90) Â

ê Ì (GB12523-2011) 2012 7 1 ˘

Ƣ ê Ì (GB12523-90) ê Ì (GB1

2524-90) ˘ 2013 3 ˘ ˘ ê

Ì GB12523-2011˜ ˜ ˘ 70dB(A)˘ 5

5dB(A)Â е ê ҹ ҹ Ì (GB12348-2

008)3 ˘ ч 65dB(A)˘ 55dB(A)Â

ť 1.4-7 1.4-8Â

1.4-7 ê ҹ ҹ Ì (GB12348-2008)

Ґ		ˆ / ˜
ê ҹ ҹ Ì (GB12348-2008)	3	65dB(A) / 55dB(A)

1.4-8 ê Ì (GB12523-2011)

Ґ	ˆ / ˜
ê Ì GB12523-2011˜	70dB(A) / 55dB(A)

1.5

1.5.1

˘ à Ґ ŭ β Ь

1.5-1Â ı ı № ' ҵ ҵ ч

ѳ ĸ ѳ ˘ ҹ ҵ

ҹ ҵ 8 β 4 β˘ Й 5#~8# β ŭ ť

Ƶ ˘ ҵ ҵ Ь Â

1.5-1

	Ґ	β	Ґ	β	
	ҵ	10m ѳ	ҵ	170m ѳ	˘ ˘ 2 6 ч Ь˘ 1842 4296 Â
	ҵ	25m ĸ ѳ	ҵ	10m ĸ ѳ	˘ 2 3 ч Ь˘ ť ч 9 14 δ ҵ˘ 2000 4100 Â
	ҵ	50m ѳ	ҵ	540m ĸ ѳ	˘ Ь ч
	ҵ	50m ĸ ѳ	ҵ	400m ĸ ѳ	˘ Ь ч
	ҵ	180m ѳ	ҵ	60m ĸ ѳ	˘ 3~6 ч Ь˘ 3000 9000 Â ˘
	ҵ	200m ĸ ѳ			ҵ˘ ч ҵ Â

1.5.2

˘ à ʔ ŭ ˢ ь

1.5-1 Â ˡ ˡ h ˆˆ ʒ

˥ ˆˆ ʒ ˥ 8 ˢ ˌˌ 4 ˢ˘

ˌˌ ˥ ˘ ĭ ь Â

1.5-2

	ʔ	ˢ	ʔ	ˢ	
	˝ ˥	10m ˢ	˝ ˥	170m ˢ	˘ ˘ 2 6 ч h˘ 1842 4296 Â
	ˌˌ ˥	25m ˢ	ˌˌ ˥	10m ˢ	˘ 2 3 ч h˘ ĭ ч 9 14 ˢ ˥˘ 2000 4100 Â
	˥	50m ˢ	˥	540m ˢ	˘ ˘ 2 3 ч h˘ 810 2800 Â
	˥	50m ˢ	˥	400m ˢ	˘ ˘ 2 3 ч h˘ 3200 8800 Â
	˥	180m ˢ	˥	60m ˢ	˘ 3~6 ч h˘ 3000 9000 Â
	˥	200m ˢ			
		500m ˢ˝		850m ˢ˝	˘ ˘ 3 4 ч h˘ 430 1400 Â
	ĭ ˥	1200m ˢ	ĭ ˥	1250m ˢ˝	˘ ˘ 3 4 ч h˘ 1020 3200 Â
	ˢ ˥	400m ˢ	ˢ ˥	800m ˢ	˘ ˘ 3 4 ч h˘ 704 2300 Â
	‖ ˥	650m ˢ	‖ ˥	1490m ˢ˝	˘ ˘ 3 4 ч h˘ 711 2300 Â
	˥	1530m ˢ	˥	1750m ˢ˝	˘ ˘ 3 4 ч h˘ 806 2500 Â
	ˊ ˥	900m ˢ	ˊ ˥	1400m ˢ	˘ ˘ 3 4 ч h˘ 798 3000 Â
	˥	900m ˢ	˥	1300m ˢ	˘ ˘ 2 3 ч h˘ 703 2200 Â
	˥	500m ˢ	˥	1100m ˢ	˘ ˘ 2 3 ч h˘ 1105 3500 Â

1.5.3

˘ ᴇ ŋ ˀ ь ŋ ˀ

1.5-3 Â

1.5-3 ŋ ˀ №

ŋ ˑ ʔ	ь ʳ β	β	(t/d) ŭ	ŋ ˑ ʔ	ь ʳ β	β	(t/d) ŭ	
ŋ ˑ ı	Ụ̆ Ụ̆ 12.2km		6 8 ʒ à ŋ ˑ	ŋ ˑ ı	Ụ̆ Ụ̆ 12.8km		10 ʒ à ŋ ˑ	β ˑ 0.6km˘ ŋ ˑ
ŋ ˑ	Ụ̆ Ụ̆ 13.8km		2 ŋ ˑ	ŋ ˑ ı	Ụ̆ Ụ̆ 26.2km		10 ʒ à ŋ ˑ	ʔ ʳ ˘ ч ı ŋ
ʔ ˑ ŋ	Ụ̆ Ụ̆ 15.3km		2 ʒ à ŋ ˑ					
ı ŋ ŋ ˑ ˆ ˑ ˜			15 ʒ à ŋ ˑ	ı 80 ŋ ˑ	1-ˢ β		16 ʒ à ŋ ˑ	
ŋ ˑ Ḥ˝	Ụ̆ Ụ̆ 16.3km	ˢ	0.5 ŋ ˑ	ŋ ˑ Ḥ˝	Ụ̆ Ụ̆ 16.9km	ˢ	3 ŋ ˑ	β ˑ 0.6km˘ ŋ ˑ

1.5.4

ºº ºº ˘ ч 15km˘ Ụ̆

ºº 28km˘ ï ºº ч ºº 1.6% Â Ụ̆

ºº 2.1km˘ ºº ʔ 16.1km˘

ˑ 0.6km Â ï ı ı h ʔ̂ ʒ ʔ

ʔ̂ ʒ ʔ 8 β ʔ̂ 4 β˘ Ụ̆ ь

ºº ˑ Â

ч ᴇ ʔ ı à à ˘

ŕ ŭ ºº ˘ ь Â

1.6

ᴇ ʟ à ᴅ à à

طي à ᴅ Ŧ ŭ ï № ˘

ˑ ı à ı ı ŕ ŭ ı

ı ı ʿᴇ ʌ Â

˘ Ŧ Â

৭ à ˘ ৭ № à ŭ̆ № ˘

ч ʻ

ſ 1 ŕ ŭ̆1 1 1 ’

ƀ 1 ’

Ƀ ŭ̆ ĭ ɒ à ˜Ţ№ Ŧ

ŭ̆ ĭ № ’

Б ˘ ʻЕ ʌ ’

б ŭ̆ № ’

Ь ŭ̆ Â

2.1

ҷ ҷ ҷ ҷ ҷ ҷ ҷ ҷ

1 ҷ 2011 12 8 ҷ ҷ ҷ ҷ ҷ Є 2011 Э 2875

ҷ ҷ ҷ ҷ ҷ ҷ ҷ ҷ ҷ ҷ

ҷ ҷ ҷ ҷ ҷ 8 5000

ҷ 140 ҷ ҷ ҷ ҷ ҷ ҷ ҷ ҷ

ҷ 4 ҷ 70 ҷ

2 ҷ 2011 5 30 ҷ ҷ ҷ ҷ Є 2011 Э 156 ҷ

ҷ ҷ ҷ ҷ ҷ ҷ ҷ

ҷ Є 2011 Э 58 ҷ ҷ ҷ ҷ ҷ

ҷ ҷ

3 ҷ 2011 12 ҷ ҷ ҷ ҷ

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ҷ 8 ҷ ҷ 10000 ҷ 1034 ҷ 99.6

ҷ 37.8 ҷ ҷ ҷ 144

TEU ҷ

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ҷ ҷ ҷ 563m ҷ 74 ҷ

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ˇ ч ˋ 4 5000 β ŭ̆

ˇ ч 563m˘ ч 74 Â

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˜ 29.5km˘ Й 1.9km˘ Й ˚ ч

1013.5km Â ৯ ч к 114°32′59″ ˝ 30°39′28″ Â Ƶ S111 àS109

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12 ˇ 4 5000DWT β^ ˋI 10000

˜ ŭ̆ ˇ ˥ ч 563×30m˘ ˥ 3 Ь Ƶ

ˇ ч 74 TEU˙ ৭ ৷ ч 45.36ˋE ˇ 13

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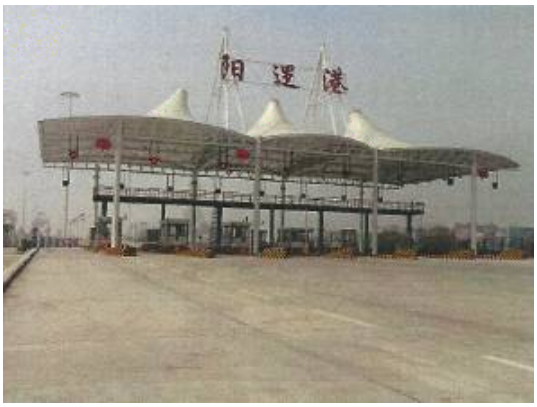

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4 5000 β˘ ϖ 563m˘ 30m˘

˘ ˘ ϖ ϗ 10m˘ 36 ˘ ϖ

Φ1800/Φ1650 ˘ 4 ˘ 144 Â

ϖ 3 Ь Ϫ ˘ ϗ ˘ ϗ 75.5 ˘

1# ϛϛ σ˘ 15m˘ ϊ 18m Â 3# ˝ σ #1 ı ˘

ϊ ϖ ϗ 22×15m Â

ˆ 2˜

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ϰ˝ Â 11# № #3 #4 ı Â

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Ϋ 5 ϛ Â 13

β˘ ϩ σ 2 β˘ 17 ˘

63m Â ϛ ϒ 9m 12m Ϋ № ˘ Ϋ ϒ 3 h

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˝ 40m ˘ β 169 Â

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7 ˘ β 1197 Â

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৭ 10 ˘ ৷ 1326m² 16067m²

β ৭ ৩ ˘ ৳ ˜ Â

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ঁ ^ ৭ h à à ŕ à à ˛ à৷ à

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2574m² Â ৩ ˘ ˜ ৩ ˘ #1৷ à

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2.4-1 h ʅ

	ʢ	β				
			-"		-"	
1		˥	40t-35m˘ Lk=16m	2	35t-35m˘ Lk=16m	1
2		˥	35t-28m˘ Lk=16m	14	40t-26m˘ Lk=16m	3
3		˥	35t-40m˘ 7	28	35t-40m˘ 7	6
4		˥	40t-40m˘ 7	4	40t-40m˘ 7	4
5		˥	40’	80	40’	16
6		˥	40’	80	40’	16
7		˥	Q=8t˘ 7	8	Q=8t˘ 7	2
8	ʊ̆	˥	3t	16	3t	3
9		˥	80t	16	80t	8
10	˭	˥		1		
11		˥		1		
12				1		1
13				16		

2.3.3

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Ь ˘ 10/0.4kV ˘ Â#1 ˘ 800kVA

˘ ˘ #2 ˘ 1600kVA ˘ ˘ #3

˘ 1600kVA ˘ ˘ #4 ˘

˘ 2000kVA ˘ ˘ #1 ˘ #2 ˘ № ˘ 10kV

˘ ˘ № Â#3 ˘ ˛#4 ˘ № ˘

10kV ˘ ˘ Ь № Â

35m 15m ˘

10m Â

ˆ 2˜ ˘ ˘

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˘ DN15˘ ˘ ≥0.35M˘ ≥5.2L/s Â ˆ ˘

˘ Â ˘ ˘ DN15˘ ˘ Â

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˘ ˘ ˘ ˘ ˘ ˘ DN25˘

˘ ≥0.58M˘ ≥50L/s Â ˘

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2.4.1

ϒ̂ ̂ ʒ ϒ ч 5000DWT

β 8 ˘ Ɜ ч 144 TEU˘ ˗ ч 1034×30m˘ ˗ 5

Ь ˘ ϒ ч 99.6 ʻE ˘ ˚˚ ϒ à ˚˚ ˆ ϒ ϒ Â

ϒ̂ ̂ ʒ ϒ ˘ Ƶ

˘ Ƣ ϒ ˗ Ь Ɜ ˘

ϒ̂ ̂ ʒ ϒ № ˘ ϕ̇ 1~4# β ŭ ˜

Â

˘ 4 5000DWT β ˆ

ʻI 10000 ˜ ŭ ˘ ˗ ч 563×30m˘ ˗ 3

Ь Ƶ ˘ ч 74 TEU Â ϒ ϡ ч 45.36

ʻE ˘ 13 ˆ ť ˜ 4 ˘ ˘

à à à ı à ť à à ˍ à à

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13 4 ˘ ˚˚ ŭ ˆ Н à ˆ

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2.4-1 [illegible]

				[illegible] 1~4# [illegible]
	[illegible]	8 [illegible]	4 [illegible]	[illegible]
	[illegible]	5000DWT	5000DWT	[illegible]
	[illegible]	8 [illegible] 144 TEU	74 TEU	[illegible] 2 TEU
	[illegible]	1034m [illegible] 1~4# [illegible] 563m	563m	[illegible]
		1034m×30m [illegible] 8 [illegible] 563m×30m [illegible] 1~4# [illegible]	563m×30m	[illegible]
				[illegible]
		5 [illegible] 1# 75.5×15m [illegible] 2~5# 75.5*18m [illegible] 1~4# [illegible] 1~3#	3 [illegible] 1# 75.5×15m [illegible] 2~3# 75.5*18m	[illegible]
		99.6hm² [illegible] 1~4# [illegible] 45.36hm²	45.36hm²	[illegible]
		23 30.6 m² 1 [illegible] 1~4# [illegible] 13 11.50 m² 1	13 [illegible] 1 [illegible] 11.50 m²	[illegible] 8# 3# [illegible]
		20 7.2 m² [illegible] 1~4# [illegible] 3 3.07 m²	4 4.27 m²	[illegible] 1 [illegible] 1.2 m²
[illegible]	[illegible]	[illegible] 31182m²	[illegible] 39154m²	[illegible]
		[illegible] 110kV [illegible] 5 10kV [illegible]	4 [illegible] 110KV [illegible]	[illegible]
		[illegible]	[illegible]	
		[illegible]	[illegible]	
		[illegible] 1 [illegible]	[illegible] 1 [illegible]	

[illegible] WIT

				Ь 1~4# β ʳ
		1 ȁ ı	1 ȁ ı	
		ʊ 150m 3m	/	8 β 4 β˘ ʔ ʊ ч 5~8# β ʔ ˘
		ȁ 20	ȁ 10	
	ı	1.5hm²	1.99hm²	ı ˍ 0.49hm²
		ŭ ʿ 3520m ȁ 8 ʔ ȁ 8 ȁ 8t ȁ № 1.2t ȁ № 8 ȁ 8 ȁ 2 ȁ Â	ŭ ʿ 400m ȁ 1 ʔ ȁ 1 ȁ 0.2t ȁ № 0.11t ȁ № 1 ȁ 1 ȁ ȁ 2 ȁ 1 Â	
ʔ̀		338687.86 ˝Ḥ	223934.93 ˝Ḥ	/
		2005.89 ˝Ḥ	815.11 ˝Ḥ	/
	β	330	330	
		360	360	
	ʒ ʟ	4 3 ʟ ʒ	4 2 ʟ ʒ	
	ˍ	1304 ˆ 1~8# β ˜	163 ˆ 1~4# β ˜	
		99.6 m2	66.66 m²	

2.4.2

№ ʔ ˘ Ь 1~4# β ŭ Ƶ ˘

ȁ β β ȁ β ȁ ʅ ȁ ʔ ȁ Ƶ

ı ı Â ı ı ʰ ʿ

ŵ Ɜ 74 TEU 144 TEU 72 TEU ˍ 2 TEU ˍ № ч 2.7% Â

Ŷ Ƶ β 8# 3# ˘ ʔ̀

Ь ʼ ˍ 1.2 m² Â

ŷ ˆ ʔ ˜ ȁ ȁ Â

Ÿ ˚˚ ˆ ʔ ʰ β ʞ ʊ ȁ ʔ ʞ ʊ˘ Ь

ʔ β ˘ ȁ ˍ ȁ ȁ ȁ

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˹ [2015]52 ê ˾ ˩ № ʒ ı

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ı ˘ ı № Ь ı ˘ ˥ ˊ

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2.4.3

ˆ 1˜ h ı ı №

ʒ Ь 1~4# β ŭ Ƶ

˘ β β à β à ˥ à ˥

ı ı ʼ Ɜ 74 TEU˘ 144 TEU 72 TEU ˙ 2

TEU˘ ˙ 2.7%ʼ Ƶ ˥ Ь1 ˘ β

8# 3# ì Ь ˘

˙ 1.2 m˞ ˥ ˚˚ ɾ à à Ь

ı ı Ь Â ˘ ˥ Ƹ ʒ

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1˜

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4 β˘ ʒ 2 β Ƹ ʒ ˘ β

1 ˥ ʒ˘ Ƶ ʒ Ь ˥ Â

˥ˊ 2 ˥ Ƹ ʒʼ

ˊ 5 ˥ +8 ˥ Ƹ ʒʼ

[illegible] 1 [illegible] Â

[illegible] [illegible] Ь Â

Ŷ Ь

4 [illegible] Ь 4 [illegible] [illegible] [illegible] [illegible]

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[illegible] 4 [illegible] [illegible] [illegible]

[illegible] 10 [illegible] +16 [illegible] [illegible] [illegible]

[illegible] 2 [illegible] Â

[illegible] [illegible] Ь Â

2˘ [illegible] [illegible] [illegible]

ŵ [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

2.4-2Â

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Ь [illegible] [illegible] [illegible] [illegible]

2.4-3Â

2.4-2 [illegible] [illegible] [illegible] ˆ ˜

[illegible]			[illegible]			[illegible]		
	[illegible]	(m)	150	80	480	/	/	
		[dB(A)]	51.5	52.5	22.4	55.0	54.6	0.4
	[illegible]	(m)	780	290	30	/	/	
		[dB(A)]	37.2	41.3	46.5	48.0	49.0	-1.0
	[illegible]	(m)	260	170	125	/	/	
		[dB(A)]	46.7	46.0	34.1	49.5	58.6	-9.1
	[illegible]	(m)	280	190	140	/	/	
	[illegible]	[dB(A)]	46.1	45.0	33.1	48.7	53.2	-4.5
	[illegible]	(m)	785	300	50	/	/	
	[illegible]	[dB(A)]	37.1	41.0	42.0	45.3	46.2	-0.9

2.4-3 [illegible]

[illegible]			[illegible]			[illegible]		
	[illegible]	(m)	150	80	480	/	/	/
		[dB(A)]	54.5	56.1	25.4	**58.4**	65.9	-7.5
	[illegible]	(m)	780	290	30	/	/	
		[dB(A)]	40.2	44.9	49.5	51.1	56.3	-5.2
	[illegible]	(m)	260	170	125	/	/	
		[dB(A)]	49.7	49.5	37.1	52.8	70.2	-17.4
	[illegible]	(m)	280	190	140	/	/	
		[dB(A)]	49.1	48.6	36.1	**52.0**	64.4	-12.4
	[illegible]	(m)	785	300	50	/	/	
		[dB(A)]	40.1	44.6	45.0	48.5	52.6	-4.1

2.3-2 2.3-3 [illegible] [illegible] [illegible] GB12348-2008 3 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] GB3096-2008 2 [illegible]

[illegible] [illegible] [illegible] [illegible] GB12348-2008 3 [illegible] 3.4 dB(A) [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] GB12348-2008 3 [illegible] [illegible] [illegible] [illegible] [illegible] GB3096-2008 2 [illegible] [illegible] [illegible] 2.2 dB(A) [illegible] [illegible] [illegible] [illegible] [illegible] GB3096-2008 2 [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] 0.4 dB(A) [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

˘ ϑϑ ˆ ϒ Ϩ β ϰ σ ϡ ϒ ϰ σ˘ Ь

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ˆ 3˜ ı ı №

˘ 2 ϡ ˘ ϒ

˘ Ϫ ı ˘ Ь ı

Ϫ˜ ϒ ˘ Ϫ

Â ϒ ϊ 1 ϗ

˘ ч 3m³/h˘ ı Ϫ

ϒ ı ˘ Ь Ь Â

˘ Ϋ ϒ σ 150m 3m σ

18m γ ϧ ϖ ϒ Â

8 β ⁘ 4 β˘ ϒ σ ч 5~8#

β ϒ ˘ ’ ϥ

ϯE˛ ˘ ϒ

ê Ϊ GB3096-2008˜ ϩ ˘

Â ˘ ˘ Ь ˘

ϋ Ϋ ˘ ⁘ ϡ Â

ˆ 4˜ ˜Ϩ

˘ σ ϖ ϒ˘ Ь ˘ Ь ϸ ˘

ϫ ϊ ê Ϊ GB3096-2008˜ 3 ˘ ˘

ч 9.4dB(A)ˆ ê ϸ ϒ № Ϊ GB/T15190-2014˜˘ ϖ

ϒ 2 ˘ ↕ 14.4 dB(A)˜˘ Ϩ ϖ ϒ σ ˘

Ь ˘ 0 ϫ Â σ

150m 3m ˘ Ϩ σ ϒ Â

˘ 8 β ⁘ 4 β˘ ϒ σ

ч 5~8# β ϒ ˘ Â

ϡ Ь ϒ ˘

ϫ Ь ϩ ˘ ˘ Ь ϸ ˘

ตามมาตรฐานกรมควบคุมมลพิษ ระดับเสียงรบกวนจากโครงการ ต้องไม่เกินค่ามาตรฐานตามประกาศกรมควบคุมมลพิษ GB3096-2008 ประเภท 2 ซึ่งมีค่าเฉลี่ยเท่ากับ 2.2 dB(A) ซึ่งมีค่าต่ำกว่าเกณฑ์มาตรฐานเล็กน้อย ดังนั้นเพื่อป้องกันไม่ให้เกิดผลกระทบต่อชุมชนโดยรอบ ผู้ประกอบการจึงควรดำเนินการติดตั้งแผงกั้นเสียงรอบบริเวณเครื่องจักรที่มีเสียงดังมาก และควรจัดให้มีการตรวจวัดระดับเสียงรายปีเพื่อติดตามผลการดำเนินงานอย่างต่อเนื่อง

2.5 ข้อมูลสรุป

ข้อมูลสรุปโครงการ มีเงินลงทุนรวมทั้งสิ้น 338687.86 ล้านบาท ซึ่งคิดเป็นร้อยละ 2005.89 ล้านบาท ซึ่งคิดเป็นร้อยละ 0.59% ของเงินลงทุนรวมทั้งสิ้น

ข้อมูลสรุปโครงการ มีเงินลงทุนรวมทั้งสิ้น 223934.93 ล้านบาท ซึ่งคิดเป็นร้อยละ 815.11 ล้านบาท ซึ่งคิดเป็นร้อยละ 0.36% ของเงินลงทุนรวมทั้งสิ้น ดังตารางที่ 2.5-1 ของเงินลงทุนรวมทั้งสิ้น

2.5-1

ลำดับ		หน่วย			
			ล้านบาท	ล้านบาท	
	รวมทั้งสิ้น		**238.00**	**27.00**	
1			86.50	20.00	
2			131.50	7.00	
3			20.00		
	ค่าใช้จ่ายในการดำเนินงาน		**1319.80**	**482.56**	
1			143.00	50.41	
2	+		45.00		8 4 5~8#
3			1.00	1.00	
4		m²	102.00	334.00	
5			18.00	11.80	
6			20.00	20.00	
7			950.80	45.35	
8			1424.66	685.12	
9			30.00	20.00	
	รวม		**122.70**	**112.45**	

[illegible]	[illegible]	[illegible]	[illegible] / [illegible]	[illegible] / [illegible]	[illegible]
	[illegible]				
1	[illegible]		3.00	2.00	
2	[illegible]		5.00	5.00	
3	[illegible]		5.00	5.00	
[illegible]	[illegible]				
	[illegible]		10.00	10.00	
[illegible]	[illegible]				
	[illegible]		10.00	10.00	
	[illegible]				
1	[illegible]		59.70	33.35	2016 [illegible] 6 [illegible] 2018 [illegible] 7
2	[illegible]		20.00	20.00	
3	[illegible]			43.8	
[illegible]	[illegible]		10.00	10.00	
[illegible]			**211.85**	**116.50**	
	[illegible]		67.22	30.00	
[illegible]	[illegible]		30.00	30.00	
[illegible]	[illegible]		84.03	35.00	
	[illegible]		26.40	20.00	
[illegible]	[illegible]		4.20	1.5	
	[illegible]		1892.30	738.51	
	[illegible]		113.54	50.00	
			2005.89	**815.11**	

2.6

[illegible] [2017]4 [illegible]

[illegible]

2.6-1 [illegible] [2017]4 [illegible] 8

[illegible] [2017]4 [illegible]	[illegible]
[illegible]	
[illegible]	

ط [2017]4ـ	**ʒ**
^ ̂ ̂ ̂ ~ ^ ~ X̆ ̂ ̂ ̂ à à à ºº à حس 1 ـ ̆ β ^ ~ ^ ~ ,	№ı ̆ ˡ [2015]52

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2011 12 ˘ ʜ ˘ ʼE„ L ê

ʔ̂ʔ̂ ʒ ʔ ÌÂ 2012 5 ˘ ˥ ط

ʔ Ɔ 2012 Ɔ 138 „ ê ˜ ʔ̂ʔ̂ ʒ ʔ

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Ì (GB3095-1996) ʜ Â

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BOD_5 à à 7 ê Ì (GB3838-2002) ’n

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ค 103.68t/ă ค 38.4t/ă ї

ค 1t/a’

ค 157.68t/a’

ค 57.6t/ ’

ค 31.4t/ă ї ˆ ґ ў

˘ ค 1t/a Â

ค ˆ ~˘ ї ค 2.7t/a ằ

ค 3.3t/a Â

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ʻ Ъ Ϊ NNE 2.4m/s ı Ϋ ʼ ч 4.9 ˘ Ϋ ʼ à ϯ Ϋ ʼ à ΄Ή Ϋ ʼ № ч 5.3 à 5.7 à 6.0 ˘ 4.0 ˜ ı ϯ˘ ϯ˚˚ Â ˚˚ β ч 0.70 ˘ ϯ ч 5.45 , ˚˚ ˚˚ Â Ь Ъ Ϊ (NW 10m/s) ı Ϋ ʼ ч 3.5 ˘ à ϯ Ϋ ʼ à ΄Ή Ϋ ʼ № ч 3.95 à 4.4 à 7.48 ˘ 2.1 ˜ ı ϯ˘ ϯ˚˚ Â ˚˚ β ч 0.47 , ϯ ч 4.21 , ˚˚ ˚˚ Â

ʻ Ъ Ϊ NNE 2.4m/s ı Ϋ ʼ ч 2.0 ˘ Ϋ ʼ à ϯ Ϋ ʼ à ΄Ή Ϋ ʼ № ч 2.2 à 2.4 à 2.5 ˘ 1.55 ˜ ı ϯ˘ ϯ˚˚ Â ˚˚ β ч 0.29 , ϯ ч 2.29 , ˚˚ ˚˚ Â Ь Ъ Ϊ (NW 10m/s) ı Ϋ ʼ ч 1.68 ˘ à ϯ Ϋ ʼ à ΄Ή Ϋ ʼ № ч 1.89 à2.14 à 3.39 ˘ 1.23 ˜ ı ϯ˘ ϯ˚˚ Â ˚˚ β ч 0.25 , ϯ ч 2.05 ˘ ˚˚ ˚˚ Â

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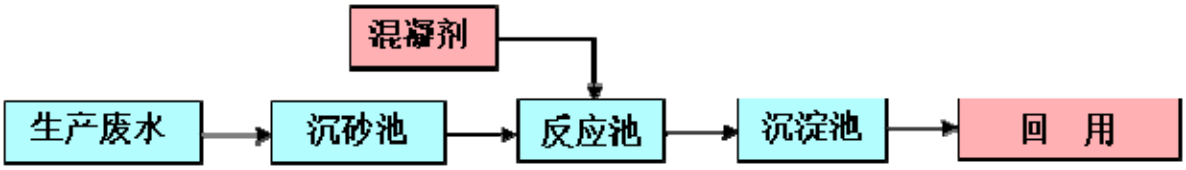

[illegible] 3.2-1 [illegible]

3.2.1.3

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ˆ 3˜ ı

ŵ ê ˘ Ỉ ı Ь ˥ ı 85% Â ı 15000m˘ Â

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	ı 4.95 m³ʾ 4000 à 14200 ˘ 6.62hm²ʿ 10.18hm²ʾ 14085mˇ 19 ˘ 5 ˘ 1287m³ʿ 5.62hm² Â	ʿ ˚˚ Â β ʿE˛˛ ˘ ˘ 2016 9 ˚ ˘ Ŋ ˀ Ð Â
	ı ŵ ê ʾ Ìˇ ı Þ ˥ ı 85% Â ı 15000m²ʿ Â Ŷ ˘ ˘ № ˭ ˘ ˥ ˘ Ƣ ʒ Ƣ ˘ Â	(1) ʔ ˘ ı 1.99hm²ʿ ı ˥ ı 93% Â (2) ˘ ˘ № ˭ ˘ Ƣ ʒ Â

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2	(1) [illegible] [illegible] (2) [illegible]	(1) [illegible] 2013 [illegible] 3 [illegible] [illegible] 2013 [illegible] 9 ~2014 [illegible] 3 [illegible] [illegible] 4 [illegible] 6 [illegible] 5 [illegible] 8 [illegible] [illegible] (2) 2016 [illegible] 6 [illegible] 20 [illegible] 2018 [illegible] 7 [illegible] 2 [illegible] 23.5 [illegible] 2000kg [illegible]43.97 [illegible] 33.25 [illegible]
3	(1) [illegible] (2) [illegible] (3) [illegible]	(1) [illegible] (2) [illegible] 8m³/h [illegible] (3) [illegible] 3t/h [illegible]
4	(1) [illegible] (2) [illegible]	(1) [illegible] (2) [illegible] 8 [illegible] 4 [illegible] 5~8# [illegible]

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	(3)[illegible] GB12348-2008 3 [illegible]	[illegible] GB3096-2008 [illegible] (3) [illegible]
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2 ˘ 1 ˘ 20min Â

ʹ ̈ ϒ à ̃ ϒ̂ ˜ ê

̂Ì GB3096-2008˜ 2 ˘ ˘ ч 0.2~9.7dB A˜˘

ч 76% Â ϒ ˘ ϒ ь ˘

ĭ h 0 Â

5.3.4

h Â

h Ŭ ̣ ˘ ϒ ̣ ʼ

h ч ص˘ Â β Ŋ

h ʹ

(1) ̇ ˘ ̓E ʌ ˘

̃ ʒ ̣ Â

(2) Ŭ Ŋ ˘ ϒ Â

(3) L ˘ ̣ à № ϕ̇ Â

(4) Й̣ 2013 3 ˘ Ꝥ 2013 9 ~2014 3 ˘ ŭ̆ ч 2014 10 Â Й̣ ̊ ŭ̆ ˆ 4 6 ˜˜ ґ ŭ̆ ̣ ̣ ˆ 5 8 ~’ ꞿ Й̣ Ꝯ ˘ Й̣ β Ꞿ Ꞿ ̣ ̣ ˘ Â à0 à ґ ŭ̆ ỉ ̣ ˆ à ~ ̣ Â

(5) β ᾧ ˘ ˘ ̣ ʒ ˘ Ꞿ L ˘ L Й̣ ʒ ̣ ˘ ϒ̂ Â

(7) ʒ ’ ˘ Â

(8) ʿ 2016 6 2018 7 2 ʒ ̣ ˘ № 23.5 ̣ 2000kg à 43.97 ˘ 33.25 ˝Ḥ Â

ỉ ˘ 2016 6 20 ˘ à ʒ ’ ʒ ̣ ˘ 23.5 ˘ ỉ 5 à 5 à 3 à 3 à 2 à ’ 1 à 2 à 2 à 0.5 ˘ à à ϒ ̣ 2000kg˘ 20.45 ˝Ḥ Â ϒ ϒ ̀E ̣ à ̀E Â

2018 7 6 ˘ ϒ̂ ̣ ʒ ϒ à ʒ ϒ Ꝥ ʒ ̣ ˘ 43.97 ˘ ỉ 10.4 à 11.38 à 10.37 à 11.82 ˘ 12.8 ˝Ḥ Â

(9) β ط ̊ ̊ ̣ à ̣ à ̣ ŭ̆ à ̊ Â

(10) ˘ ґ Â Ꝯ à à ŭ̆ à ı à à à ˘

[illegible] Â [illegible]

[illegible]

[illegible] 2016 9 [illegible]

[illegible] Ð Â

5.3.5

[illegible] Ь [illegible]

[illegible] Ь [illegible]

(1) [illegible] Ж [illegible]

[illegible] Â

(2) [illegible]

(3) [illegible] № [illegible] Ь

Â

(4) [illegible]

Â

(5) Ī [illegible] Ь [illegible]

Â

(6) [illegible] Â

[illegible] Â

5.4

[illegible] Ь [illegible] [illegible] Ð

Ð Â [illegible] à

[illegible] Ь

[illegible] Ҭ [illegible] Ҩ Ð Â

6.1

6.1.1

[illegible] 0 [illegible]

[illegible] 1020m³˘ [illegible] Â [illegible]

12.23m³/d [illegible] 8.70 m³/d˘˘ [illegible]

COD à BOD5 Â [illegible]

Â

6.1.2

[illegible] № [illegible] Ø

Â [illegible]

ê Ì GB8978-1996˘ [illegible] Ø

[illegible] Â

Ø [illegible] ı ’

Ø Ł ì ı Ø˘

[illegible] Ø Â

[illegible] Ł [illegible] ‘E

[illegible] ˘ ˜Ḥ ‘E [illegible] Â

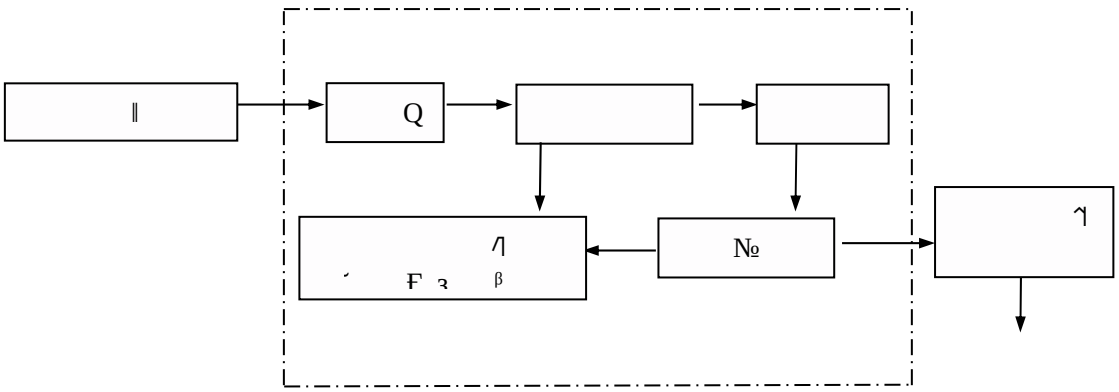
[illegible] ŭ ĩ طي 6.1-1 Â

طي 6.1-1

6.1.2.1

ʔ̂ ч 8m³/h̆ Q 1 à̀ 1 ˆ

50m³˘ à̀ 1 ˆ 5m³˘˘ № 1 Â طي 6.1-2 Â



طي 6.1-2 طي

6.1.2.2

ʔ ˘ à ˆ 50m³˜ à

ı ˆ 3t/h˜ à ˆ 90m³˜ Ƶ ʔ ı

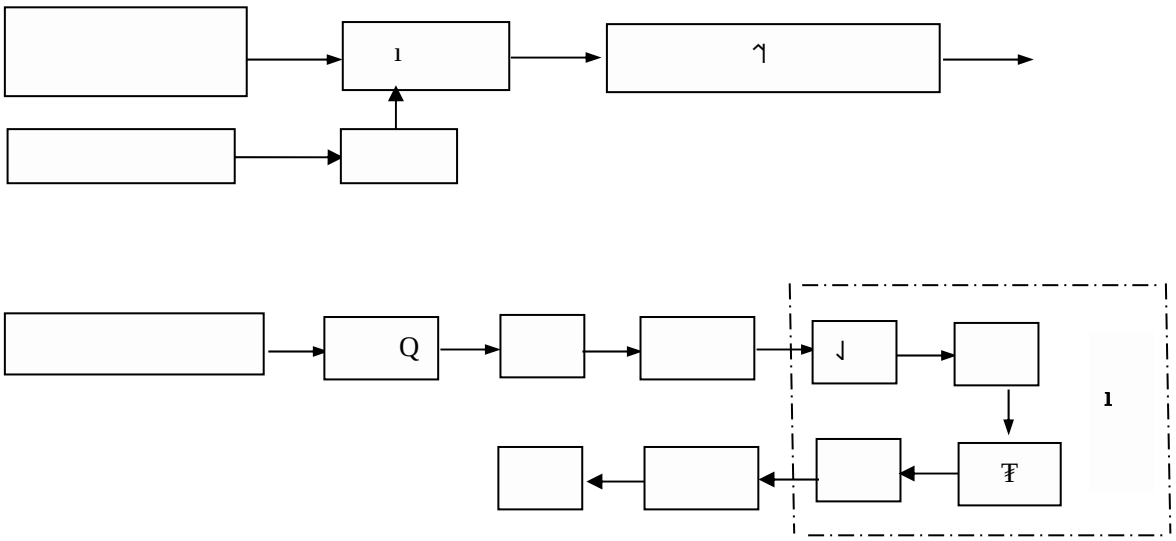
,

Ƶ ь ї ı

Ƶ˘ ʔ ˘ Ƶ

Â

طي 6.1-3 Â



طي 6.1-3 **طي**

6.1.3

ʅ ʿE„ 2018 7 6 ~7 ˚˚

Ŧ' Â

1.

˚˚ à Ŧ ' Â

2.

˚˚ ' pH à COD à BOD_5 à SS à à '

' pH à COD à BOD_5 à SS à Â

3. ' 2 ˘ ;,; Й ʅ Â

4. ' ê Ì GB8978-1996˜ Â

5. ŭ №

6.2-1

	-"	ʔ	β
	Ň - Ň	ط ˆ WIT˜ Ŭ	⁘ ⁘ 0.5km
	ň - ň		/
	ʼn - ʼn	⁘ 100m	Ŭ Ŭ 2.4km

2.

ˆ Ň - Ň à ň - ň à ʼn - ʼn ˜ ˋ pH à à à

à COD à BOD_5 à à 8 Â

3.

2018 7 6 ~7 2 ˘ Â

4. ŭ №

⁘ à à ⸗ 1 ⸗ ˘ ⸗ ˆ Ŭ 0.5m ˜

ŭ 1 ˘ Ŋ Â

ŭ № ط ˇ Â

5. ŭ №

6.2-2 Â

˘ ˘ ʔ 3

ê Ì GB3838-2002˜ ʼn Â

6.2-2 **№** [illegible] mg/L pH [illegible]

		pH	DO	COD	BOD				
E		6~9	≥5	20	4	1	0.05	6	—
- [illegible]		7.70	7.70	19.00	3.80	0.25	0.03	4.20	29.60
		0.35	0.02	0.95	0.95	0.25	0.60	0.70	
- [illegible]		7.68	7.80	16.00	3.70	0.35	0.04	4.20	28.60
		0.34	0.01	0.80	0.93	0.35	0.80	0.70	
- [illegible]		7.69	7.80	14.00	2.80	0.28	0.04	2.90	28.70
		0.35	0.01	0.70	0.70	0.28	0.80	0.48	
- [illegible]		7.88	7.90	18.00	3.80	0.48	0.04	4.20	29.60
		0.44	0.10	0.90	0.95	0.48	0.80	0.70	
- [illegible]		7.89	7.90	12.00	2.40	0.50	0.04	2.80	31.60
		0.45	0.21	0.60	0.60	0.50	0.80	0.47	
- [illegible]		7.89	8.00	14.00	2.70	0.48	0.03	2.90	31.80
		0.45	0.26	0.70	0.68	0.48	0.60	0.48	
- [illegible]		7.90	7.80	11.00	2.20	0.32	0.04	2.40	29.70
		0.45	0.06	0.55	0.55	0.32	0.80	0.40	
- [illegible]		7.91	7.80	16.00	3.00	0.48	0.04	3.20	29.70
		0.46	0.06	0.80	0.75	0.48	0.80	0.53	
- [illegible]		7.93	7.90	14.00	2.80	0.43	0.04	2.90	29.90
		0.47	0.11	0.70	0.70	0.43	0.80	0.48	

[illegible] 2

6.3

(1) ˚º à Ƶ

ê Ì GB8978-1996˜ ˆˆˆ ˘

ˆ¶ ˆ¬ Â

(2) ˆ¶ ı Ƶ˘

ˆ¶ ’ ˘ à

à ı ˆ 3t/h˜ Ƶ ˆ¶ ı ˆ¬ Â

(3) ˘

Â

7.1

˘ h ʊ̆

ª˚ ˘ h TSP à PM_{10} à SO_2 à NO_2 Â

7.2

ɲ ʔ́ ɥ˙

ˆ 1˜ ˊ à ˘

˘ Â

ˆ 2˜ ˘ ˊ Â

ˆ 3˜ ˊ Â

ˆ 4˜ Ʊ Ʊ ˘ ˘ à

Â

ˆ 5˜ ʔ ˥ ˘ Â

ˆ 6˜ ʔ ı˘ ı 1.99hm² Â

ˆ 7˜ ɥ ˘ ı Ƶ

Ƒ Â

Ʃ ʔ

طي 7.2-1

7.3

ɥ ˘ ˘

Ƶ Â

ˆ 1˜

№ ˘ Ŭ 7.3-1 Â

7.3-1 ʔ β

-ˡˡ	β ʔ	ˆ m)	β		ˇ
1#	ʔ̃ ʔˆ ˜	15	E	TSP àPM$_{10}$ àSO$_2$ àNO$_2$	δ ʔ

ˆ 2˜ à à Ь №

ŵ ч 2018 7 6~7 ˘ 2 ˘ TSP à PM$_{10}$ à SO$_2$ à NO$_2$ ч

˘ SO$_2$ à NO$_2$ PM$_{10}$ Ь 20 ˘ TSP Ь 24h

Ŷ Ь №

TSP à PM$_{10}$ à SO$_2$ à NO$_2$ 4 Â

ط 7.3-2 Â

7.3-2 ษ ʔ

-ˡˡ		№	№
1	TSP		GB/T15432—1995
2	PM$_{10}$		HJ618—2011
3	SO$_2$	ǁ — № ϕ̇ ϕ̇	HJ482ʒ 2009
4	NO$_2$	ʜ № ϕ̇	HJ479ʒ 2009

ˆ 3˜

˘ ˘ Ð 7.3-3ʒ

7.3-4

7.3-3 Ð

	Ʊ	ˆ m/s˜	ˆ ˜	˩ˆ KPa˜
2018 7 6	˝	1.2	28.2	99.96
2018 7 7	˝	1.2	29.6	99.92

7.3-4 ˆ β ug/m³˜

β ʔ				ʅ %		
1# ʔ̃ ʔ ˆ ˜	TSP	166-175	300	58%	0	
	PM$_{10}$	89-92	150	617%	0	
	SO$_2$	13-14	150	9%	0	
	NO$_2$	27-29	80	36%	0	

ˆ 4˜ №

ˈ Ƛ˜ ʔ ʔ̃ ʔˆ ˜

TSP à PM$_{10}$ à SO$_2$ NO$_2$ ê Ì (GB3095-2012)

ʜ ˘ Ƛ˜ ɛ ʔ . Â

7.4

[illegible] TSP à PM_{10} à SO_2 NO_2 ê Ì (GB3095-2012) Ħ [illegible] Ь [illegible] Â

8.1

(1) [illegible]

(2) [illegible]

(3) [illegible]

8.2

[illegible]

(1) [illegible]

(2) [illegible]

(3) [illegible]

(4) [illegible]

(5) [illegible] 150m 3m [illegible] 18m [illegible]

[illegible] 8 [illegible] 4 [illegible] 5~8# [illegible]

[illegible] GB3096-2008 [illegible] 5~8# [illegible]

[illegible]

8.3

1. β

ΰ̈ ˘ 1m 4 ˘

̈ ϒ ̈ ̈ ϒ̂ ~ 2 β˘ Ϩ

1 β˘ ΐ β 8.3-1 طي 7 Â

8.3-1 β

		-̈	β	

		dB(A)			dB(A)		
	2018.7.6	65	61.7		55	51.5	
	2018.7.7		59.9			50.1	
˝ ʊ	2018.7.6	65	61.1		55	50.7	
	2018.7.7		60.5			49.3	
˝ ʔ	2018.7.6	60	55.2		50	46.5	
	2018.7.7		55.4			46	
ʔ ˜	2018.7.6	60	55.3		50	46.4	
	2018.7.7		54.6			45.3	
ˆ ʔ ˜	2018.7.6	70	63.8		55	53.6	
	2018.7.7		63.1			52.9	

˘ ˘ ʔ à ê ʒ ʒ

Ì GB12348-2008˜ 3 Â ˝ ʔ

ʔˆ ˜ à ê Ì (GB3096-2008) 2

Â

˘ ˘ Ь ˘ ŭ Ŋ

˘ Â

8.4

(1) Ŋ ʔ à γ à˭ Ī

˘ γ ˚˚ ʒ ŭ Â

(2) ˘ ʔ à ê ʒ ʒ

ˆÌ GB12348-2008˜ 3 Â ˝ ʔ ʔ

˜ à ê Ì (GB3096-2008) 2 Â

(3) ʿ

ʔʕ̂ʔ ʒ ʔ 8

β 4 β˘ ʔ ʊ ч 5~8# β ʔ ˘

ʔ̃ Â Ƣ 5~8# β

Ƣ Ŋ ı Â

˘ β˭ ˘ Ŋ ʒ˘ Н ʟ Ŧ

˘ н ˘ Ƣ ˘ Ь ˘

ŭ Ŋ ˘ à Â

9.1

[illegible] 0 [illegible] [illegible] № [illegible]

[illegible] Â [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] Â

[illegible] [illegible] [illegible] [illegible] 29.34t/a [illegible]

[illegible] 5.09t/a [illegible] [illegible] 0.3t/a Â

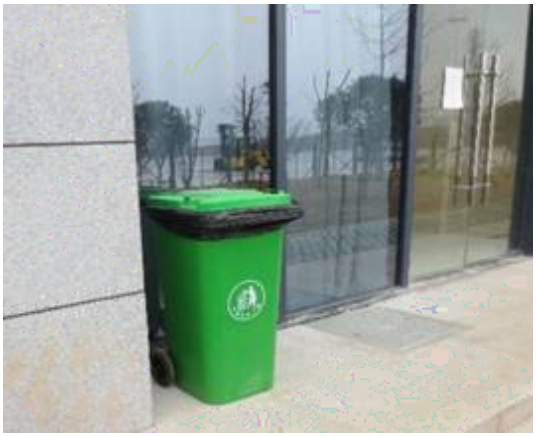
9.2

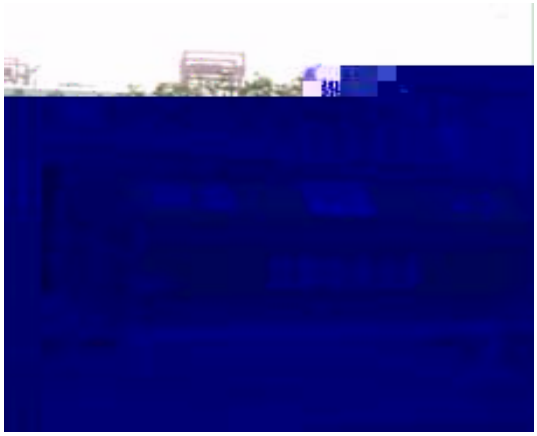
1. [illegible]

№ [illegible] [illegible] [illegible] № [illegible] [illegible]

[illegible] [illegible] [illegible] № [illegible] [illegible]

[illegible] [illegible] Â





طي 9.2-1 [illegible] [illegible]

2. [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] 5m² [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] Â

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] GB18597-2001 [illegible]

[illegible] [illegible] [illegible] [illegible]

(1) Ð ˘ ɛ Й Ц ̆ 5mm +50mm +20mm ˘ ť 9.2-3 Â

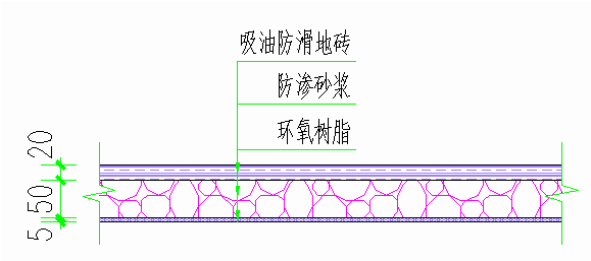
(2) ˚ ơ 75mm ť Â

(3) ˚ ˩ ˘ Â

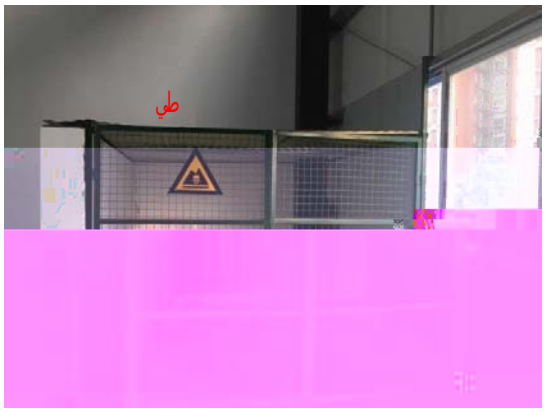
(4) ˚ ơ 20cm ˘ Â

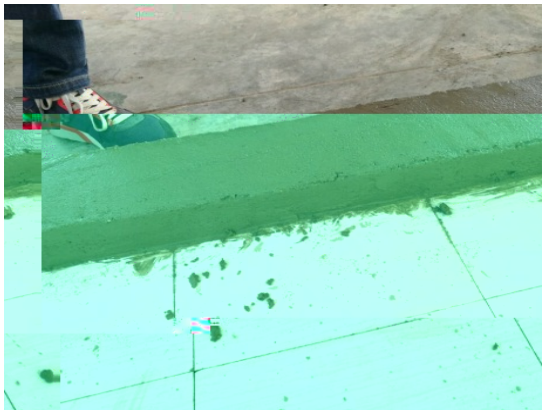
(5) ˚ ˥ ơ ˘ 1.8m × 1.0m × 0.4m Â

(6) ˚ ˚ Ъ Â

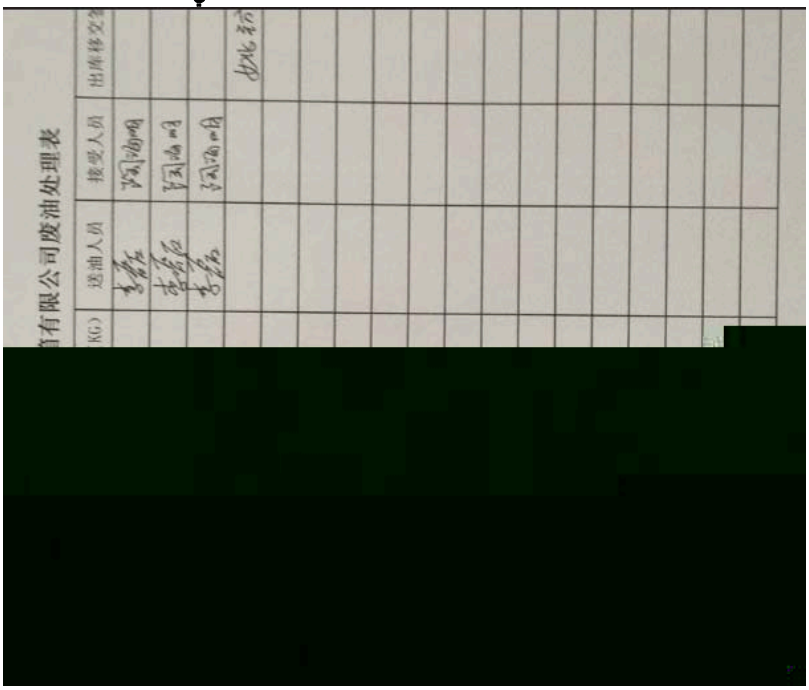


طي 9.2-2





طي 9.2-3 ʎ



طي 9.2-4 ʎ Ŧ ʔ

9.3

(1) L ˘ ˘ ˚˚

Â

(2) № Ƶ ʔ ˚˚

’ à ʎ ĭ ‘E˛ ˘

ʎ L ˘ Â

10.1

ˇ ʒ ʅ ʅ

ˇ ˇ ˇ 99.6 m² ч 66.66

m² 685m Â

№ ˇ ʜ

ˇ ɣ ŭ ʅ Ƶ Â ɿ ˋ ʒ ˇ

Ь ŭ ˋ ʒ Â β ˇ ˊ ˇ ˇ

Ɲ ˇ ʅ Â

(1) β ˇ ˊ ˥ˇ 2012 4 28 ɿ ط

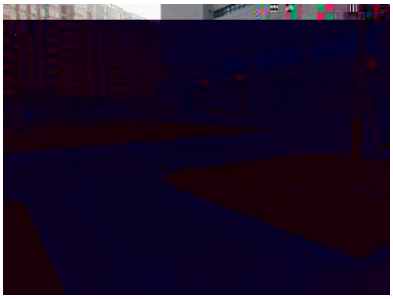
ط ط [2012]88

ﻟﻄﻲ ﻟﻄﻲ

ﻟﻄﻲ 10.1-1

ﻟﻄﻲ ﻟﻄﻲ

ﻟﻄﻲ ﻟﻄﻲ



ﻟﻄﻲ ﻟﻄﻲ

ﻟﻄﻲ ﻟﻄﻲ

ﻟﻄﻲ 10.1-2 ﻟﻄﻲ

10.2

10.2.1

1. [illegible]

[illegible]

2. [illegible]

A. [illegible]

[illegible]

[illegible] Â

B. [illegible] 2010 [illegible] 1 1 Â [illegible] Â

C. [illegible] № [illegible] Й [illegible] Ь [illegible] Й [illegible] Â [illegible] Ь [illegible] Â

3. [illegible] Й [illegible] Â [illegible] Ь [illegible] Ь [illegible] Ь [illegible] Â

10.2.2

(1) [illegible] Â

(2) Й [illegible] Â

(3) [illegible] № [illegible] Â

(4) 2013 3 [illegible] 2013 9 ~2014 3 [illegible] 4 6 ~ [illegible] 5 8 ~, Й [illegible] Й [illegible] Ф [illegible] Ф [illegible] Â [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Â

(5) β ᾧ ˘ ˘ ʒ ˘
Ҥ L ˘ L Ѝ ʒ ˭ ˘ ϯ
Â

(7) ʒ ,
˘ Â

(8) β ط ᵒᵒ ᵒᵒ
˭ à ˭ à ˭ ὖ à ᵒᵒ Â

(9) ϯ ı ˘ ᵒᵒ
ᵒᵒ ê Ì GB8978-1996˜ ̂ ̂ ̂ Ƶ˘
˘ ϯ ˘ Ƶ ˘ Ь
ᵒᵒ Â Ƶ
ϯ ı Ь ˘ Ь ᵒᵒ Â

(10)

ч ʒ ʒ ˘ β
ὖ Ð ˭ Â β Ь ϯ ʒ
Ƣ ˘ ϯ ʒ Â 2016
6 2018 7 2 ʒ ˭ ˘ № 23.5
˭ 2000kg à 43.97 ˘ 33.25 ˝Ḥ Â
2016 6 20 ˘ β à ϯ ʒ
ʾ ʒ ˭ ˘
23.5 ˘ ϊ 5 à 5 à 3 à 3 à 2
à ʾ 1 à 2 à 2 à 0.5 ˘
à à ϟ ˭ 2000kg Â 20.45 ˝Ҥ ϊ
18.45 ˝Ḥ à 1.0 ˝Ḥ à ὖ 1.0 ˝Ḥ Â ϯ
ϯ ʿE ˭ à ʿE Â
2018 7 6 ˘ ϯ̂ ̂ ̂ ʒ ϯ à
ʒ ϯ Ҩ ʒ ˭ ˘
43.97 ˘ ϊ 10.4 à 11.38 à 10.37 à 11.82 ˘
12.8 ˝Ḥ Â ϯ ϯ ʿE
˭ à ʿE Â

10.2.3

β طى [illegible] [illegible]

à [illegible] à [illegible] ŭ̆ à [illegible] Â

10.2.3.1

β طى [illegible] [illegible]

à [illegible] à [illegible] ŭ̆ à [illegible] Â 2013 3

˘ 2015 12 Ħ ˘ ť Й̣ 2013 3

˘ Ħ 2013 9 ~2014 3 ˘ ŭ̆ ч

2014 10 Â

(1) β ˑ ˑ˙˙ 100m̂ Ň˜ à ˆ ň˜ à

Й̣ 100m̂ ’n˜ Â

(2) ˑ Â

(3) ˑ 2012 9 à 2013 4 à 2014 4 à 2015 4 2016 3 à

2018 4 6 Â

(4) ˑ ê Ì [illegible] № Â

(5)

ŵ [illegible] ŭ̆

à à Ƶ Ŧ 10.2-1 Â

10.2-1 [illegible]

[illegible]																	
										[illegible]							
[illegible]	2012 9			2013 4			2014 4			2015 4			2016 3			2018 4		
	Ň	ň	’n	Ň	ň	’n	Ň	ň	’n	Ň	ň	’n	Ň	ň	’n	Ň	ň	’n
Ň Bacillariophyta																		
1. *Melosira g*																		

ʔ																	
	2012 9			2013 4			2014 4			2015 4			2016 3			2018 4		
	Ňňʼn			Ňňʼn			Ňňʼn			Ňňʼn			Ňňʼn			Ňňʼn		
31. *Oscillatoria formosa*	–	–		–			–	–		–		–		–			–	
32. *Spirulina jenneri*	–		–			–			–		–	–	–		–	–		–
33. *Raphidiopsis* sp.		–		–				–		–			–	–		–	–	
34. *Phormidium tenue*	–			–	–	–	–		–	–					–	–		–
35. Ƙ *Lyngbya* sp.		–	–			–		–				–		–				–
36. *Dactylococcopsis* sp.	–		–			–	–	–			–		–			–		
37. *Cylindrospermopsis* sp.	–			–	–				–	–				–			–	
38. *Homoeothrix* sp.		–	–	–			–					–			–			–
ŋ **Chlorophyta**																		
39. *Closterium* sp.		–		–	–		–	–		–			–	–	–	–	–	–
40. *Microspora* sp.	–	–	–			–			–									
41. *Pleurotaenium* sp.					–		–						–			–		
42. *Scenedesmus* sp.				–		–		–	–	–					–			–
43. *Schroederia* sp.									–		–			–			–	
44. *Pediastrum* sp.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–
45. *Ankistrodesmus* sp.			–		–				–	–								
46. *Selenastrum* sp.						–					–		–	–	–	–	–	–
47. *Spirogyra* sp.	–	–				–			–			–						
48. Ƙ *Ulotrichales* sp.			–	–			–	–			–	–		–			–	
49. *Staurastrum* sp.		–		–				–		–					–			–
50. ʔ *Cladophora* sp.					–		–		–			–	–			–		
51. *Chlorella* sp.						–			–		–		–			–		
52. *Closteriopsis longissima*					–			–	–					–	–		–	–
53. *Selenastrum bibraianum*		–	–	–			–	–					–			–		
54. *Tetraedron minimum*			–		–	–				–			–			–		
Ō **Euglenophyta**																		
55. *Phacus* sp.	–	–		–				–			–			–			–	
56. *Euglena* sp.			–		–				–			–			–			–
57. *Trachelomonas* sp.	–	–		–		–	–			–				–			–	
ō **Cryptophyta**																		
58. *Chroomonas caudata*		–			–			–	–	–	–		–	–		–	–	
56. *Cryptomonas* sp.				–		–	–					–	–		–	–		–

ʿ “+” ɲ Ŧ Â

10.2-2 [illegible]

	2012 9			2013 4			2014 4			2015 4			2016 3			2018 4		
	Ň	ň	ʼn	Ň	ň	ʼn	Ň	ň	ʼn	Ň	ň	ʼn	Ň	ň	ʼn	Ň	ň	ʼn
	14	10	14	11	15	12	13	12	10	14	14	12	14	14	14	14	13	14
	4	6	6	6	7	7	6	7	9	6	5	4	8	6	6	8	5	6
	5	4	4	5	2	4	4	4	3	4	2	4	3	4	3	4	3	4
	2	3	1	1	2	2	2	2	1	1	3	2	1	2	1	1	1	1
	2	2	1	2	1	1	1	1	1	1	1	1	0	2	1	0	2	1
	0	1	0	1	1	1	1	1	1	1	1	1	2	1	1	2	1	1
	27	26	26	26	28	27	27	27	25	27	26	24	28	29	26	29	26	27
10^4ind/L	7.87			11.61			12.67			11.72			10.65			11.33		
	1.13			2.66			2.89			2.54			2.34			2.61		
п	à à			à à 1			à à			à à 1			1 à à			à à		

[illegible] 6 56 [illegible] à à [illegible] [illegible] [illegible] 1 1 Ь [illegible] [illegible] [illegible]

10.2-3 [illegible]

[illegible]																		
[illegible]	2012 9			2013 4			2014 4			2015 4			2016 3			2018 4		
[illegible] **Protozoa**																		
1. *Difflugia* sp.		–			–	–	–		–		–			–		–	–	–
2. *Arcella vulgaric*	–			–				–				–			–			–
3. *Strombidium* sp.		–	–			–				–			–	–		–		
4. *Litonofus* sp.	–			–	–		–					–		–				–
5. *Halteria grandinella*			–		–				–		–				–		–	
6. *Colpoda cucullus*		–				–	–	–		–			–			–		
7. *Didinium* sp.	–			–				–	–	–				–		–		
8. [illegible] *Tintinnopsis Sinensis*	–		–	–					–		–		–				–	
9. *Cextropyxis aculeata*			–		–	–	–	–				–			–		–	–
10. *Strobilidium gyrans*		–		–				–		–			–			–		
Rotatoria																		
11. *Branchionus forficula*		–	–	–		–	–		–	–	–	–	–	–		–	–	–
12. *Branchionus calyciflorus*			–		–			–	–		–			–	–	–	–	–
13. *Branchionus diversicornis*	–	–			–		–			–		–	–	–	–	–		–
14. *Lepadella* sp.	–		–	–	–		–		–						–			
15. [illegible] *Notholca* sp.		–	–			–		–		–	–		–			–	–	
16. *Kerafella valga*	–			–				–			–	–		–	–		–	–
17. *Kerafella quadrata*		–	–		–	–	–		–	–	–	–	–	–		–		–
18. *Euchlanis* sp.	–		–	–					–				–		–			
19. *Lepadella* sp.		–				–	–			–			–		–	–		
20. *Lecane luna*	–				–				–			–		–				–
21. *Asplanchna priodonta*		–	–	–			–	–	–	–	–	–	–		–	–	–	–
22. *Trichocerca longisrta*	–		–			–				–	–		–	–		–	–	
23. *Trichocerca cylindrica*	–	–		–			–				–	–		–	–			–
24. [illegible] *Filinia* sp.	–	–			–	–		–		–			–		–	–		
25. *Schizocerca diversicornis*		–	–	–			–		–		–	–			–		–	–
26. *Polyarthra* sp.	–				–		–			–		–	–			–		–
		–																
27. *Sida crystallina*	–		–	–	–		–		–	–		–	–		–	–		–

ๆ	2012	9	2013	4	2014	4	2015	4	2016	3	2018	4

[illegible] Protozoan˜ à [illegible] Rotifer˜ à [illegible] Cladocera˜ à [illegible] Copepods˜˜ [illegible] 43 [illegible] ˜ Â [illegible] à [illegible] à Ø [illegible] [illegible] [illegible]

10.2-5 ■ ʔ̣

ʔ̣																		
	2012 9			2013 4			2014 4			2015 4			2016 3			2018 4		
■																		
1. *Branchiura sp.*		–	–	–				–	–	–		–		–	–	–		–
2. *Branchiura sowerbyi*			–		–		–	–			–	–	–		–			–
3. Ꝁ *Limnodrilushoffmeisteri*	–	–	–	–	–	–	–		–	–	–		–	–	–	–	–	
4. Ꝁ *Limnodrilus* sp.	–					–		–	–			–		–				–
5. *Tubif* sp.			–		–		–		–		–		–			–	–	
6. *Nais inflata*		–		–				–		–		–				–		–
7. Ꝁ *Telmato drelusvejdovsky*	–	–	–	–	–	–	–		–	–		–	–	–	–	–		–
8. *Chaetogaster* sp.	–	–				–		–			–	–	–				–	–
9. Ꝁ *Bothrioneurum* sp.			–		–		–		–	–	–		–		–	–	–	
10. *Aulophorus* sp.		–		–			–	–						–	–			
■																		
11. *Limnoperna lacustris*	–		–		–		–	–	–		–	–		–			–	–
12. *Lamprotula leai*					–	–				–			–			–		
13. *Cuneopsis pisciculus*		–		–			–	–			–	–		–		–	–	–
14. *Hyriopsis cuminigii*	–		–			–	–		–			–			–			–
15. *Unio dauglasiae*		–			–			–		–	–		–	–		–		
16. *Corbicula fluminea*	–	–		–	–		–	–	–		–	–		–	–	–	–	–
17. ̈ *Oncomelania hupensis*	–	–	–	–		–	–				–	–	–	–		–	–	–
18. ˥ *Parafossarulus sinensis*	–			–	–			–	–	–			–		–	–		
19. *Parafossarulus striatulus*	–	–				–	–	–		–	–			–		–	–	
20. *Radix plicatula*		–	–	–	–			–		–		–		–	–	–		–
21. ˥ *Cipangapaludina cathayensis*		–	–	–					–		–		–		–		–	
22. *Cipangapaludina* sp.	–		–		–	–	–	–	–					–	–			
■ **Arthropoda**																		
23. *Caridina nilotica gracilipes*	–		–	–	–			–		–		–	–		–	–		–
24. *Aeschna* sp.		–				–	–		–	–	–	–	–	–		–	–	–
25. *Limnochironomus* sp.	–	–	–	–	–	–	–	–	–		–	–		–	–		–	–
26. *Chironomidae*		–	–	–	–		–	–		–	–	–	–		–	–	–	–
27. *Heptagenia* sp.	–	–	–		–	–			–	–	–		–	–		–	–	

ʿ “+” ˥ ₮ Â

10.2-7

					Ƛ			
	2012.3	2013.3	2013.10	2014.8	2015.3	2015.10	2016.2	2018.7
ᵒᵒ	15.23	8.65	6.67	6.38	5.81	5.03	3.8	11.7
	105	89	110	69	105	97	46	211
	13	17	20	17	20	14	8	18

ɦ à à à

ঀ 2.1km ঀ ৗ 16.1km

ঃ 0.6km Â

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10.2-8 ʎ ˽ ษ̆

	ʎ						ỉ	
2010	0	0	0	0	0	68	0	0
2011	0	0	0	0	0	70	0	0
2012	0	0	0	0	0	50	0	0
2013	0	0	0	0	0	130	0	0
2014	0	0	0	0	0	90	0	0
2015	0	0	0	0	0	101	0	0
2016	0	0	0	0	0	67	0	0
2018	0	0	0	0	0	17	0	0

ʻ 2016 ษ ̆Ḥ 7 ˘ 2018 ษ ̆Ḥ 5 Â

ŵ ʎ ˽ ษ̆ ษ̆ ı ı

ษ̆ ษ̆ ˘ 19 80 ฦ

ʎ ˘ 2009 ʎ ˘ 200ʻE ˘ 2010 ɣ Ƶ

ʎ ʼ 19 80 ฦ ˘

2009 ĭ Ѝ ˘ 3~5 ˘ 2010 Ƶ

ʎ à ˘ ษ ʎ Â

˘ 2010 6.5ʻE ˘ 2010 2016

8~15cm 10~50 ꞟ ˘

ษ h ษ Â 2010

2016 ỉ ʎ ˽ Â

Ŷ ʎ ˽ ษ̆ ı ı

ษ̆ ˘ ษ̆ à₀ à

ɣ ษ̆ ỉ ˽ ˆ à ˜ ʎ à ʎ ˽ Â

2018 ˽ ʻ ʎ à

˽ ˽ ˘ 8~15cm 10~50 ˘

ษ h ษ Â

10.3

ʃ β “ɣ ษ h˘ à à à ” ↕˘ ʔ

ı ˘ ê ʼ Ì ı Â

ƀ Ꝑ ℗ ˘ ɣ

ษ̆ ˥ ˘ ษ̆ ษ̆

Â

Ɓ β ৗ ৩ Â 2016

6 20 2018 7 6 ˘ β à ৗ ৩

ˇ 2 ৩ ˘ №

23.5 2000kg à 43.97 ˘ 33.25 ˝Ḥ Â

[illegible]

11.1

11.1.1

[illegible] 99.57 [illegible] 66.66 m² [illegible] 2012 4 28 [illegible] طى طى طى [2012]88 [illegible]

[illegible] 2010 [illegible] 224 [illegible]

[illegible] 2010 [illegible] 100 [illegible]

11.1.2

[illegible] Ha [illegible] Hb [illegible]

[illegible] 2011 1 [illegible] Ha [illegible] 1000 [illegible]

[illegible]

11.2

[illegible] 10330m [illegible] 8050m [illegible] 48 [illegible] 7005m 5368 [illegible] 391 TEU [illegible] 2365m [illegible] 2185m [illegible]

17 ˆ ч β˘ 13 β ˜˜ 289 TEU˘ 848 1760m˘ 264.4 m²˘ 22.6 m² Â ч Ғ ˘ β ʔʕʔʔ ʒ ʔ ˘ ʔ ч ˘ ê Ì ŭ ì˘ β Â Ҭ п ı ˘ ˘ Ь ŭ Â ɪ Ҭ ˘ Ь Â

11.3

˘ ط ŭ Â

11.4

ɴ ˘ β˘ ˟ ʔ ˘ ɴ ˘ ˘˘Ḥ№ ˟ Â

ʔ ч ʔ h ˘ ˟ ʔ ˘ ч˟ ˘ ɳ L ʒ˘ ⇔ Ð Â Ƣ ˘ ˟ ʒ ˘ ч ˘ Â

11.5

ʃ Ь Н ط ˘˘ Â Ь ʔ ˘ ˟ ʒ ˘ ˘ ˟ ˘ Â

.

12.1

[illegible]

(1) [illegible]

(2)

[illegible]

12.2.2

[illegible]

(1) [illegible] GB8978-1996 [illegible]

(2) [illegible]

(3) [illegible] 1.99hm² [illegible]

(4) [illegible]

(5) [illegible]

12.2.3

[illegible]

12.3

[illegible]

12.4

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13

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ʔ̂ʔ̂ ʒ ʔ Ʉ Ð Ĭ ʔ

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Ʉ Â

13.1

ʔ̂ʔ̂ ʒ ʔ 4 5000DWT

β^ ʿI 10000DWT ˜˘ Ƹ ч 74 TEU/ Â

Ɦ à à à ı à ʻ ˚˚ ˘ ь ʔ à ʔ Â

ь ˖ ʒ˘ Ʉ ˥ Â ˘

ь ˚˚ Ʉ Â № ˘ ˚˚ Ʉ Ɦ

чʻ ^ ˜ ˘ ʼ ^ ˜

ь ˘ № ^ ˥˜ Â

№ ʔ ʒ

Ʉ ˘ Ʊ 135ť Ɦ NNE̓ 2.4m/s˜ à

ь Ʊ NW̓ 10 m/s˜˘ 90% ч 7650m³/s̓

10% ч 32600m³/sˇ 19.6 Ƶ˘

˥ 44.96km² 19.6 Ƶ ˘ Ƶ Â

˘ Ʉ Â

13.2

13.2.1

ʿE ч ˚˚ à à ʒ à

˘ ʿE ˘ ط ˘ ʿE

˚˚ à ʒ à Â ʿE

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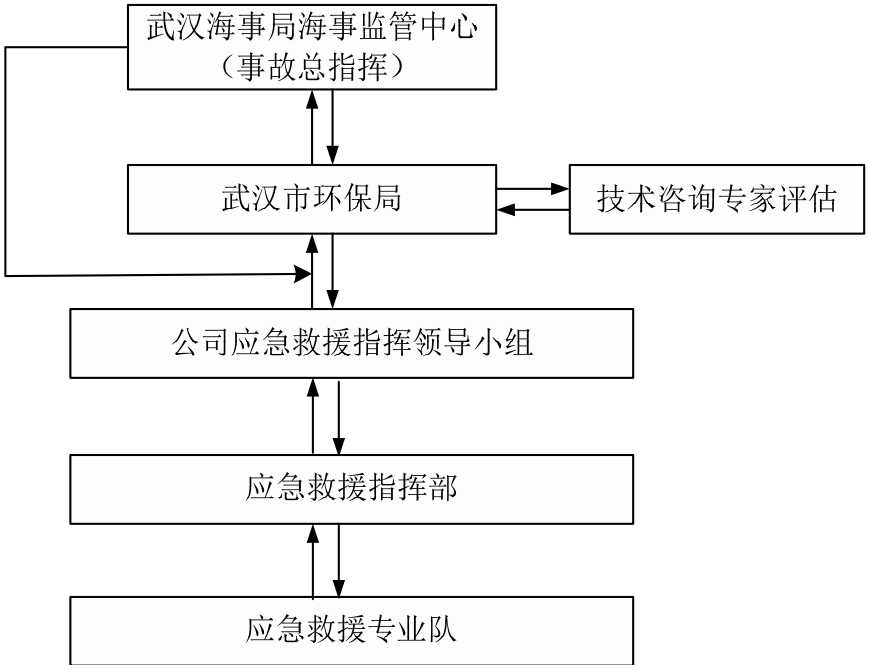
Ʉ طي 13.2--1 Â



طي 13.2-1 طي

[illegible]

13.2.2

1. [illegible]

13.2-1 [illegible]

13.2-1 [illegible]

[illegible]	[illegible]	
	[illegible]	027-59102777
	[illegible]	027-59102766
	[illegible]	027-59102700
	[illegible]	027-59102822
	[illegible]	027-59102800
[illegible]	[illegible]	027-59102822
	[illegible]	027-59102833
	[illegible]	027-59102833
	[illegible]	027-59102833
	[illegible]	027-59102788
	[illegible]	027-59102866
	[illegible]	027-59102799
	[illegible]	027-59102727
	[illegible]	027-86961297

[illegible]

2. [illegible]

[illegible]

3. Ғ ʒ

ч Ҩ ð № ˘ ˘ Ӣ

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ȁ Ғ ʒ ȣ ˘ β ȁ ȁ ˘

β ȣ ˘ Ʊ ˘ Ҩ ˘ Ӣ

ɔ Â ҩ ˘ Ƛ˘ ˘ ȁ

ʒ ˘ ˥ ˘ ® Ҩ Â

Ӣ 2 ɔ˘ β ȁ L Ҩ ˘ γ Âˆ˜

$ È Ä O † ŁĎ » °š. 6„CO™Ń Ct ` Ŏ § p,¼˜ \Ñ !` 18u‰y$ é \Ñ 0 ৭ M ϟ ɣ

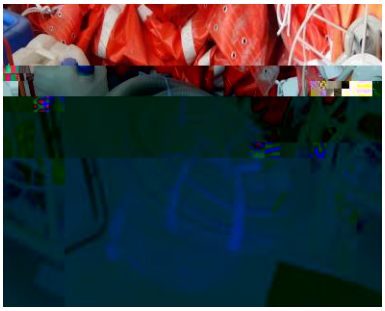
2ÀSÐJ Í

[illegible] Â

13.2-2 [illegible]

[illegible]	[illegible]	[illegible]	[illegible] 8 [illegible]	[illegible] 4 [illegible]	
					[illegible]
1		m	3520	400	[illegible]
2		[illegible]	8	1	[illegible]
3			8	1	[illegible]
4		t	8.0	0.2	[illegible]
5	[illegible]	t	1.2	0.11	[illegible]
6	[illegible]		8	1	[illegible]
7			8	1	[illegible]
8			1	1	
9				2	[illegible]
10				1	[illegible]
11			2	[illegible] 200m [illegible]	

[illegible]



[illegible]

13.2.3.2

^ 1˜ Ь ê ' ⁘ Нu Ї

ê ' ⁘ Нu Ї JT/T451-2017˘˘

JT/T451-2017 ľ 5 ї ⁘ à à

Ь ˜ ˘ Ь JT/T451-2017

13.2-3 Â

13.2-2 ŭ

₋	Нu ŭ	β	JT/T451-2017		
1		m	Ь ˅ 3	400	
2		˥	1m3/h	1 ˥ à 5t/h	
3			1	1	
4		t	0.2	0.2	
5	№	t	0.11	0.11	
6		m3	1m3	1 /1m3	
7	№			1	
8				1	
9				2	
10				1	

˥ ˘ ^ ˜ ê ' ⁘ Нu

Ї JT/T451-2017˜ ˜ ˘ Нu

Й Â

ˆ 2˜ ϒ

˘ Ю ˘ ϗ

Â ΄ ‘

ŵ ϒ 100% “153040” ΄ ˘ ľ Ł Ⓧ ϒ 15 № à ϒ

30 № à ΄ 40 № Ю ŭ ˘ Â

Ŷ ˆ ı ˘ à № à Ю Ł Ł

à № à Ю à ˆ ˜ ľ Ł ΄ └ 116

ˆ ’ 10 37 № ’ à à à

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΄ └ ’ └ ’ ˆ à ˆ

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ŷ ґ ľ 12395 Ł Ғ ч Ь à VHF ґ ŭ ч

’ ґ ľ ı Ł ľ ϗ ı Ł ч ˘ ґ ľ

GPS à ’ VTS à CCTV ˘ ґ ŭ Ю

Ł = ˘ ч = ϗ Â

Ÿ Ϋ ь └˘ ˆ ˜ à

300 ˘ ϒ 150 ľ Ł ľ № à

Ł ˘ ˜Ţ Ю └ Â

Ю ŭ Ţ № ΄ ¬ Â ˘

Ю à ţ ˘ ϒ 100%

“153040” ΄ ˘ ϒ 15 № à ϒ à 30 № à 40 №

Ю ’ “ ”Ⓧ 5 № Ŧ ’ ˆ ь ˅

91% Â ΄ └ ΄ 50t ΄ └ Â

1) Ю Ю

β Ю Ю ϒ˘ ŭ 13.2-3 Â

Ю Ю ’ ˆ β Ţ 200m˘ Ю

Ю Â

13.2-3 [illegible]

[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	027-86980835	1	[illegible]	[illegible] 1012 [illegible]	[illegible] 1016-1004	027-86980823
		2	[illegible]	[illegible] 1001 [illegible]	[illegible] 1004-984	027-87605011

2) [illegible]

[illegible] 48.81 [illegible]

[illegible]

[illegible] 13.2-4 [illegible]

[illegible] 2.7km [illegible] 10 № [illegible]

[illegible] 15 № [illegible]

13.2-4

[illegible]	[illegible]	[illegible]	
1			
1.1	[illegible]		600
1.2			400
1.3			200
1.4			1
1.5			200
1.6			
2			
2.1	[illegible]		1
2.2			1
2.3	[illegible]		1
2.4			2
2.5			1
2.6	[illegible]		1
2.7	[illegible]		2
3	[illegible]		

˟	Ղ	β	
3.1			5
3.2			800
3.3			3
3.4	˟		2
3.5			2
3.6			5
3.7	˟		3
3.8			4
4			
4.1	‖		1
4.2	˩ ‖		1
4.3	ΐ		1
5			
5.1	ˊ		1
5.2			1
5.3	ˆ ˜		3
5.4	ΰ		1
6	ὶ		
6.1			50
6.2	№		1
6.3			1
6.4	Ϫ		2
6.5			2

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Ŭ 200m˘ Ʊ β ʻʻʻ 2.7km˘

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˜ ʻʻʻ Ʊ Ŭ ˘ ὶ Â

13.2.4

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Ԋ à Ԋ à Ь à Ԋ ŭ Ԋ

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Ԋ Ь ˘ ŭ Ъ ϒ ϡ ϡ

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Ŷ ϒ Ғ ˘ à

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^ 3˜

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Ъ Â Ԋ Ƶ˜

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à Ь ť ˘ ˽ Â

ť ť Ъ Ԋ γ ŭ Ь Ԋ

Ԋ à Ѐ à Ԋ à Â

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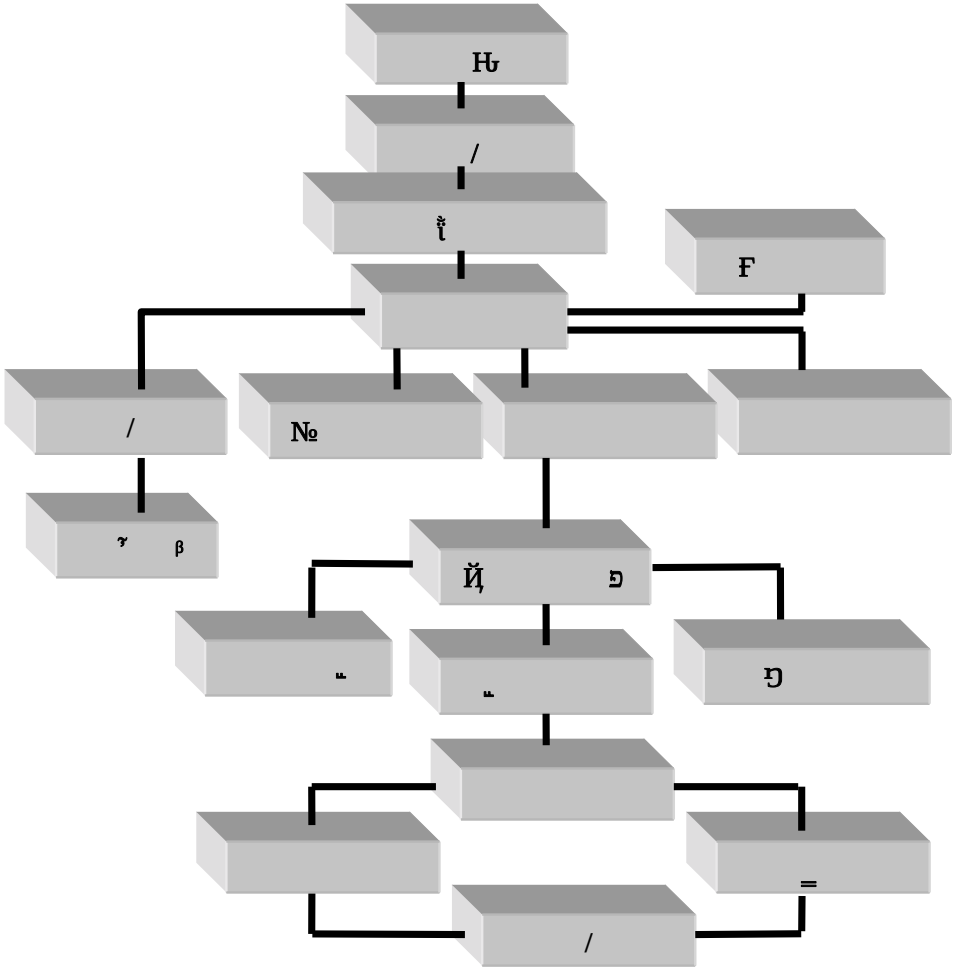
Ϫ Â

Ϫ˘ ʼE ̈ ˘ Ϫ

Â



ϕ 13-2 ϕ ̈ ϊ̈ ϕ

13.2.5

ˆ 1˜ ̈

Ϯ ϩ Ϯ Ԋ ˘ ϒ ϋ̈

Ϣ Â Ԋ Ϫ˘

˘ ϋ̈ ̈ Ϊ ϖ ˘

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Ԋ Ϫ˘ ̈ Â Ԋ

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ȁ Ь ť ˘ ˽ Â

ˆ 2˜ Ԋ

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ȁ ϒ ˆ ˜’

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L Â

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ϒ ’

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ŷ ŭ Ь ȁ ȁ Ŋ ˘

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13.2.6

ΐ̈ ̃ ὰ ὰ Ғ ʒ

˘ ὶ ̃ ˘ ΐ̈ ̓,̓ ˘

ΐ́ ΐ̈ L ὺ Â

13.2.7

ʼE ὰ ὰ № ˘

˘ Â

Ь ˘ ὶ Â

ὰ ὰ ὺ ὰ ὰ

˘ Ƛ˘ ʼ ὰ

ὰ Ϩ ὰ ὰ ὺ ὰ ὰ ὰ

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13.2.8

̃ ʼY˘ ғ ˘ ὺ

ὺ ὶ Â

13.3

ʼE Ҩ ὺ ὶ Ҩ Ь

˘ L ê ϒ̂ ̂ ʒ ϒ Ҩ Ð

Ἴ ϒ Â β ˘

L˘ Â ϒ

[illegible] Ю Â

Ю à ŭ [illegible] β Н

[illegible] Ω [illegible] [illegible] Й [illegible]

(1) [illegible] Ю Â

(2) [illegible] Ь [illegible] [illegible] [illegible] Â

(3) Ю [illegible] Ю Â

(4) [illegible] [illegible] [illegible] à à

[illegible] ì í Ю Â

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14.1

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β β Â

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˘ № β Ϩ Ғ ΐ β Â

˘ L ˘

L˘ ɾ L à L ̇ ̇ ̇ ˘ Ŧ

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14.2

β ¨ ϒ ʽE˵

ʽE˵ ˘ ϊ ¨ ϒ ʽE˵

à à ŭ à 11 β ˘

ʽE˵ ϒ ŭ Â β

ˈ ʽE ˘ ˘

Â β L ˘

˘ L

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14.2.1

ſ β ˈ ¨ ϒ ʽE˵ à

ʽE˵ Â

ь

Ƶ˘ β ˘ 2 ˘

ΐ ˈ ŭ Â

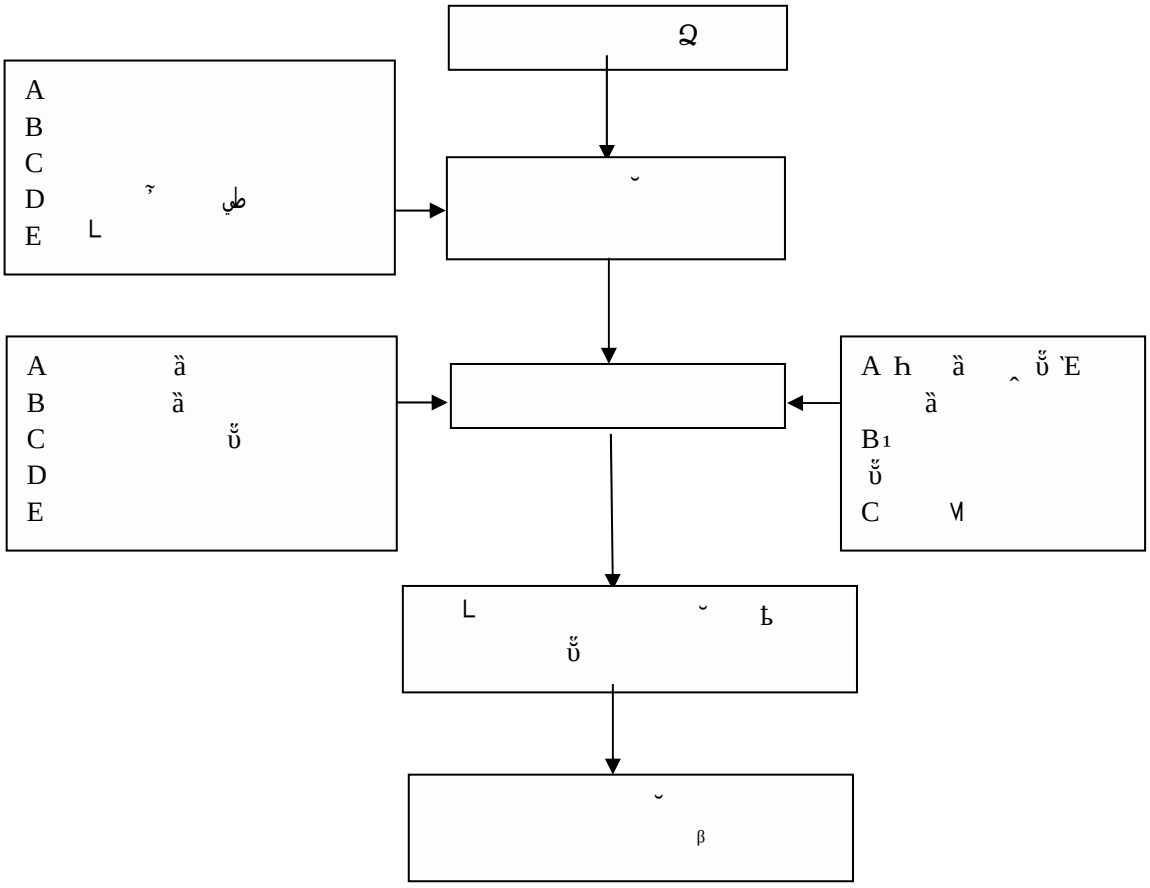
14.2.2

ϟ ϒ ϑ ϒ ϑ ϒ ϑ

[illegible]

[illegible] 4 [illegible] Â

[illegible] 14.2-1 Â [illegible]



[illegible] 14.2-1 [illegible]

14.2.3

[illegible]

14.2.4

[illegible]

˘ β ˘ à № à

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à ط ˘

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Ҭ ˘ Ʊ β à ˻ à ŭ

Â ɤ à ˘

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Б L

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Ƣ ˘ L ˘ Ŋ ƀ Ƣ ˘ L ᵒᵒ Â

14.3

14.3.1

ʿEˍ ʿEˍ ˘ ط

˘ ʿEˍ ᵒᵒ à ʒ à Â

ʿEˍ ˘ Ʉ ˘ à

˘ ʼ Й ˹ ʿE ˘ ʿEˍ

Â

14.3.2

ʿEˍ L ˘ ê

Ì̀àê Ì̀àê Ì̀àê

Ì̀ ʁ˘ ɤ ŭ ê ˹ Ì̀àê ˹ Ì̀ ˘ L

à ˘ ʿEˍ ŭ Â

˹ ʿE ʿEˍ ˘ ʰ ˹

(1) ط à ˜ ˜ à à ˘

ʿEˍ L L ʼ

(2) [illegible]

(3) [illegible]

(4) [illegible]

14.4

14.4.1

[illegible]

14.4.2

[illegible]

№ [illegible] 14.4-1 [illegible]

14.4-1

[illegible]					
[illegible]	[illegible]		1 /	2 [illegible] 1 [illegible]	[illegible]
[illegible]	[illegible]	COD [illegible] BOD_5 [illegible] SS [illegible]	1 /		[illegible]

14.5

[illegible]

(1) [illegible]

(2) [illegible]

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15.1

ʿE ʌ ƀ˘ Ƕ ʿE ʌ Ƕ ƀ ˘

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3̈ ƀ ʅ ˚˚ Â ʿE ʌ ƀ ˘

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№ ʿE ʌ ˜ ˘ ч Ŧ

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15.2

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ɛ ʿE ʌ ƀ ʿE ʌ ƀ ƀ ʿE ʌ

˘ Ʊ ˘ γ ʊ̆

ʿE ʌ˚˚ ˘ ê ʔ̂ʔ̂ ʒ ʅ

ʿE ʌ Ì˘ Ƕ ȁ № Â

ʿE ʌ ð 21 Â

15.3

15.3.1

ʿE ʌ ʜ ˝ ʅ ʔ̂ʔ̂ ʅ ʌ ˘ ʅ 54

˘ 54 ˘ 100% Â ˙ ƀ Ƣ ȁ ȁ ʒ

ı ˘ ʿE ʌ ƀ ť ʅ Â

15.3.2

ʿE ʌ 15.3-2 Â

15.3-2 Ѐ ʌ

˗				ˆ ˜
1	е		48	88.9
			6	11.1
		Ь	0	0
		Ь	0	0
2	h		0	0
			21	38.9
			32	59.3
		ϊ	1	1.9
3		Н	0	0
			2	3.7
			49	90.7
		Ь	3	5.6
4	22:00 6 00		0	0.0
			4	7.4
			50	92.6
		Ь	0	0.0
5	ϒ β		52	96.3
			0	0.0
		Ь	2	3.7
6	Ъ		0	0.0
			47	87.0
		Ь	7	13.0
7	ч ʼ h		29	53.7
			4	7.4
		ѯ	0	0.0
		ѷ	21	38.9
			0	0.0
8	ȁ ѯ		0	0.0
			50	92.6
		Ь	4	7.4
9		Н	0	0.0
			18	33.3
			36	66.7
		Ь	0	0.0
10		Н	0	0.0
			14	25.9
			39	72.2
		Ь	1	1.9
11	Ŧ ϒ Ѡ		0	0.0
			52	96.3
		Ь	2	3.7
12	ϒ		18	33.3
			35	64.8
		Ь	0	0.0
		Ь	1	1.9

ʃ 88.9% ч е ˘ 11.1%

Â

ƀ 39.8% ч ч h ˚˚

˘ 59.3% ч ˘ h Â

Ƀ 90.7 ч ˘ ʅ

3.7 Â

Б 7.4% ˘

˘ Ь ˘ ̀ї ↕ Â

Б 96.3% ʅ Ʊ

˘ ̀ї ↕ Ь Â

Ь 87.0% Ʊ

˘ ̀ї ↕ Ь Â

ƀ ˘ ч 53.7%˘ 7.4%

ч ʔ ˘ ̀ї ↕ Â

Ɔ 92.6% à ˚˚ ˘ ̀ї

↕ Ь ’

Ƈ 33.3% ˚˚ ˘ 66.7%

↕ Â

(10) ˘ 25.9% ч ˘ 72.2%

˘ ̀ї 1.9% Ь Â

(1) 96.3 ч Ŧ ʅ Ʊ ˘ 3.7

Ь Â

(12) 33.3% ч Ь ˘ 64.8

ч ˘ ̀ї Ь Â

˘ ̀Е ʌ Ʊ ˥ ˘ ̀Е ʌ h ч̇

ʔ ʒ ̀ а̇ ̇ ˘ ̇ ˘

ɣ Â

15.4

№ ˘ ̀Е ʌ h ̇ ̀ а Ƙ ʒ ʔ

Â ̀Е ʌ Ь Ŧ ˘ β ̀Е ʌ

ʸ ̃Ḥ№ ˘ Ꞥ Ꞥ Ḭ ʿ

ŵ ʔ ˗ ˘ ˘ Â

Ŷ ˠ ˘ ̇ ȁ Ꞧ Ꞗ Ꞧ

˘ Ꞗ ˘ Ꞧ ˘ ̇ Ī ˘ ˗ ˠ ˚˚ ʒ

Â

˘ ˘ ˘ Ь ˘ ʊ̆

Ꞥ ˘ ȁ Â

.

16.1

ϒϊ̂ ̓ ϩ ϒ β ̆ ̓ ̓ ̓ ̃ 29.5km̆ Й̧ 1.9km̆ Й̧ ̓ ч 1013.5km Â ϫϫ ч ϰ 114°32′59″ ̃ 30°39′28″ Â 2011 12 ̆ ̀E ϩ ̆ ̀E L ê ϒϊ̂ ̓ ϩ ϒ Ì̀ 2012 5 ̆ ϡ ط ϒ Ϲ 2012 Ϋ 138 ê ̃ ϒϊ̂ ̓ ϩ ϒ Ì ῒ Â ϋ̆ Ð ϒϊ̂ ̓ ϩ ϒ ч ľ 5000D β 8 ̂ ̀I 10000 ~̆ 1034 Â 99.6 ̆ 37.8 Â Ϩ ч 144 TEU ÂĿ

ϒϊ̂ ̓ ϩ ϒ ̆ Ϫ ̆ Ϩ ϒ ϩ ϭ Ь Ϩ ̆ ط ϒϊ̂ ̓ ϩ ϒ Ŧ № ̂ Ϲ 2012 Ϋ 1914 ê ϒϊ̂ ̓ ϩ ϒ ϭ Ì̆ ϕ̈ ̆ Ŧ ̀ ľ 4 5000 β ϋ̆ ̆ ч 563m̆ ч 74 ĿÂ2012 11 ϡ ط ϒ ê ̃ ϒϊ̂ ̓ ϩ ϒ Ì̀ [2012]600 ~̆ Â ط ϭ Ð ̆ ̀E 2013 3 ̆ 4 5000DWT β ̂ ̀I 10000 ~̆ ϋ̆ ̆ ϭ ч 563×30m̆ ϭ 3 Ь Ϫ ̆ ч 74 TEU̓ ϒ ϡ ч 45.36 ̀E ̆ 13 ̂ ῒ ~̆ ȁ 4 ϋ̆ ̆ 2015 12 Â

223934.93 ˝Ḥ ỉ 815.11 ϒ 0.36% Â

16.2

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γ ŭ ˘ L

ᏯÂ

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Ŋ Â ŭ ˘ ŭ

˘ ʼᴇ ʌ ь ˘

ᵒᵒ ₮ ʼᴇ ʌ Ꝼ ᵭ Â

16.2.1

(1) ᵝ “γ ч h˘ à à à ” ↕˘ ϒ

ı ˘ ê ʾ Ì ı Â

(2) Ŋ ℗ ˘

γ ŭ ϓ ˘ ŭ ŭ

Â

(3) ᵝ ϒ ʒ Â2016

6 20 2018 7 6 ˘ ᵝ à ϒ ʒ

ʾ 2 ʒ ᵟ ˘ №

23.5 ᵟ 2000kg à 43.97 ˘ 33.25 ˝ḤÂ

16.2.2

h à ᵒᵒ

γ ŭ Â

Ŋ h ʿ ϒ à

ᵟ ˘ ˘ ʾ

ч ˘ ı Ƶ Ꝼ

ʾ ϒ ϓ ˘ Â ɛ ˘

ê Ì Ꝼ ˘ Â

16.2.3

h ч ϒ ᵒᵒ ˘ ỉ ᵒᵒ h ч

[illegible] COD à BOD5 [illegible]

(1) [illegible] à [illegible] ê [illegible] GB8978-1996 [illegible]

(2) [illegible] 3t/h [illegible]

(3) [illegible]

16.2.4

(1) [illegible]

(2) [illegible] GB12348-2008 3 [illegible] GB3096-2008)

2 [illegible]

16.2.5

[illegible]

(1) [illegible]

(2) [illegible]

16.3

[illegible]

Ηϒ ط ϡ ˘ ˘

Ь Â

16.4

ϛ ˘ ϱϱ ˘ Ϭ

˘ ϣ ϱϱ ˘ ˘ ϗ γ ˘

˘ ϱϱ ˘

˘ ϱϱ ط ϣ Â

Ι Â

16.5

Ε Ηϒ ϋ ϊ Ηϒ

Ь ˘ Ηϒ ϡ Ι ê ϒϊ̂ ϩ ϒ

Ηϒ Ð Ϊ ϒ Â β

˘ Ι˘ Ηϒ ˘

ϗ Ηϒ ϒ ˘ Â ϒ ϒ

Ηϒ Â

16.6

Ε ϧ ˘ 88.9% ϥ ϵ ˘

11.1% Â № ˘ Ε ϧ Ь ̇ Ι

ἀ Ηϒ ϩ ϒ Â Ε ϧ Ь Ŧ

˘ β Ε ϧ ϒ ϡ№ ˘ Ь Ϭ

ἀ ̇ Ī Â

16.7

(1) β ̇ ˘ ϩ˘ Ηϒ Ι Ŧ ˘

Ι ˘ ̇ Ī ˘ ϱϱ ϩ Â

(2) ˘ ˘ Ь ˘ ϋ Ϭ

˘ ϡ ἀ Â

(3) β ̇ ˘ ϊ

Â

(4) β ̇ ˘ Ι ,

˘ ˊĭ ʔ ₮ Â

(5) ˖ ŭ̆ ƀ ʔ ⅵ ˘

˵ Â

(6) Ƕ ˘ Ƕ Â ʔ

ˀ ˘ ˀ à à ˘ ì ˊĭ

Ƕ Â

(7) ê Ƶ ᴇ ˈ ˆ ˜ Ì ɔ 37˵ ˜

ط ì ˀ ˘ Ƶ ᴇ˘ ˚˚ ɣ ŭ̆

à ᴇ˘

ƀ ˘ ₮ à ɣ ŭ̆ Â

16.8

ˑˑˑ ˘ ط ˀ ˘ ɾ à

˚˚ ˘ Ŋ ˘

˘ ŭ̆ ˘ ƀ̂ Ƣ ʟ ˩ Â

ˊĭ ᴅ˘ ɣ Â