



TTI Inspection Services Co., Ltd.

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INSPECTION REPORT

REPORT NO.	CLIENT P/O NO.	DATE OF REPORT	TOTAL PAGES
TTI20150728_****	20150502	28 th July. 2015	8

CLIENT	*****	VENDOR	*****
INSPECTOR	Kevin	INSPECTION DAYS	4days
VALVE TYPE	API-6A Gate valves	QTY	10pcs
TYPE OF INSPECTION	1- Inspection Qty of order; 2- Visual check 3- Dimensional check 4- Pressure test; 5- Drift test; 6- Drift dimensional check; 7- Documents review;		

NARRATIVE

1 Summary

TTI Inspector performed the inspection of 10pcs API-6A gate valve from *****

2 Inspection Activities

2.1 Quantity check

The all 10pcs valves are finished testing and painting



All valves



All valves



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Slab gate valve



2-1/16"5000psi expanding gate valve

2.2 Visual Check of Valve

Findings:



1. All marking is blurry after painting



2. All valves stud and nut material is B7/2H, but the drawing is L7M/2HM



3. The bore of valve is rusty



4. All slab valve's hand wheel has no "open" and "close" direction mark



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Note: 1. Although the stud and nut material is not according drawing, but it comply API 6A DD requirement. Please you comment!

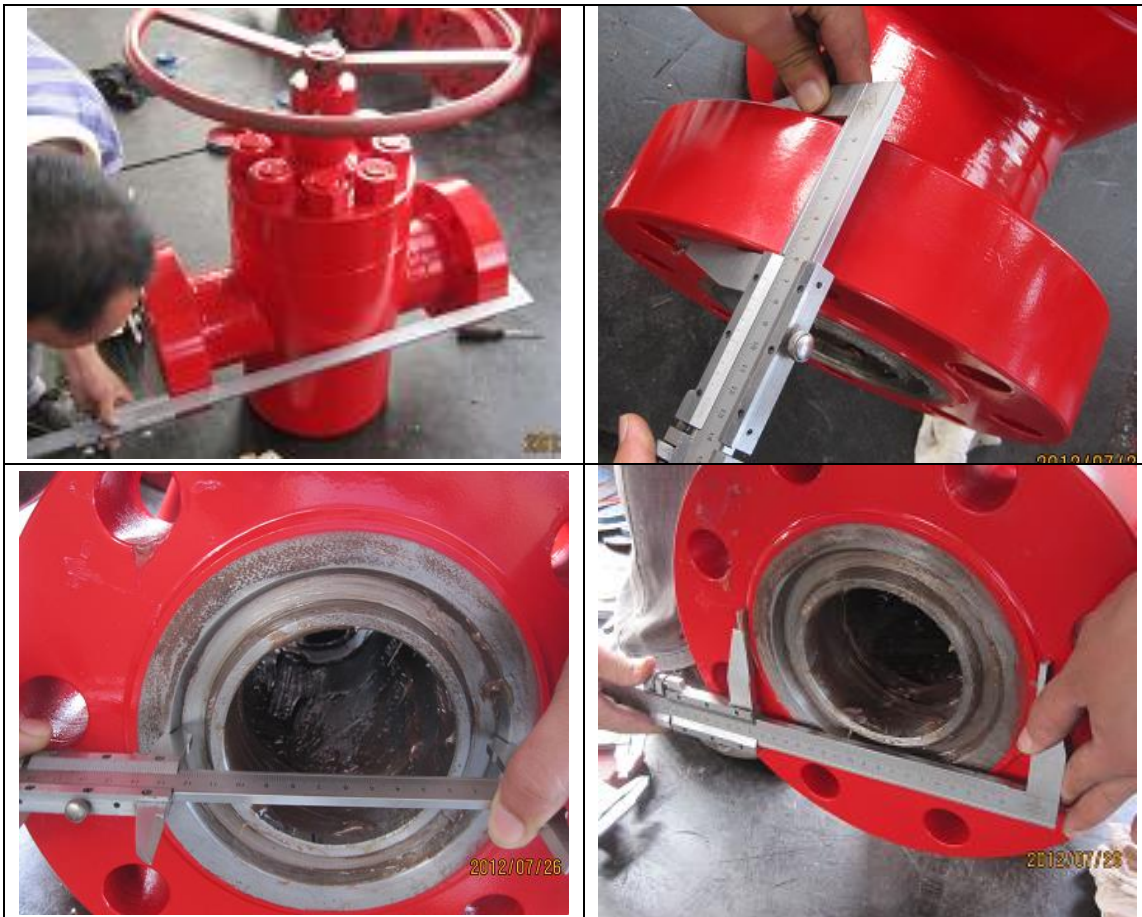
2. The factory promise to modify the other problems except finding 2.

2.3 Dimensional Check of valves

- 1) Please see the attached file "dimensions LIST" for detail!
- 2) Findings: a) 2-1/16" 3000psi expending valve flange thickness is less 0.8mm than std;
 b) 2 -1/16" 10000psi valve, the flange raise face diameter is less 10mm than std;
 c) 2-1/16" 3000psi valve, the face to face dimension is longer 3.5mm than std;
 d) Some valves total height and hand wheel diameter is deviate with drawing.

Please you comment

3) Pictures



2.4 Pressure Test

- 1) Pressure test of 10pcs valves have been performed as specified by the standard. Please see the details as follows:

Valve Size	material	Test Type	Test Pressure	Test Duration	Cy cle	Test Results
2-1/16" 5000psi expending	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	7500Psi	3 Min	2	pass
		Hydrostatic Seat	5000Psi	3 Min	3	pass



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valve		Test(side A)				
		Hydrostatic Seat Test(side B)	5000Psi	3 Min	3	pass
2-1/16" 10000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	15000Psi	3 Min	2	pass
		Hydrostatic Seat Test(side A)	10000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	10000Psi	3 Min	3	pass
3-1/8" 3000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	6000Psi	3 Min	2	pass
		Hydrostatic Seat Test(side A)	3000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	3000Psi	3 Min	3	pass
3-1/8" 5000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	7500Psi	3 Min	2	pass
		Hydrostatic Seat Test(side A)	5000Psi	3 Min	3	1st:failed 2 nd :pass
		Hydrostatic Seat Test(side B)	5000Psi	3 Min	3	pass
3-1/16" 10000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	15000Psi	3 Min	2	pass
		Hydrostatic Seat Test(side A)	10000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	10000Psi	3 Min	3	pass
4-1/16" 3000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	6000Psi	3 Min	2	pass
		Hydrostatic Seat Test(side A)	3000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	3000Psi	3 Min	3	pass
4-1/16" 5000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	10000Psi	3 Min	2	1st:failed 2 nd :pass
		Hydrostatic Seat Test(side A)	5000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	5000Psi	3 Min	3	pass
4-1/16" 10000psi	4130, PSL2,	Hydrostatic Shell Test	15000Psi	3 Min	2	pass



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slab valve	P,PR1,DD	Hydrostatic Seat Test(side A)	10000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	10000Psi	3 Min	3	pass
5-1/8" 5000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	10000Psi	3 Min	2	pass
		Hydrostatic Seat Test(side A)	5000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	5000Psi	3 Min	3	pass
7-1/16" 3000psi slab valve	4130, PSL2, P,PR1,DD	Hydrostatic Shell Test	6000Psi	3 Min	2	pass
		Hydrostatic Seat Test(side A)	3000Psi	3 Min	3	pass
		Hydrostatic Seat Test(side B)	3000Psi	3 Min	3	1st:failed 2 nd :pass

Note: 1. About seat leakage valves, after lapping wedge and seat again, it passed the testing.

2. About shell leakage valves, after replace a new gasket, it passed the testing.

2) Pictures



Body shell test



Seat testing



3-1/8"5000psi seat leakage



After repair, it is ok!



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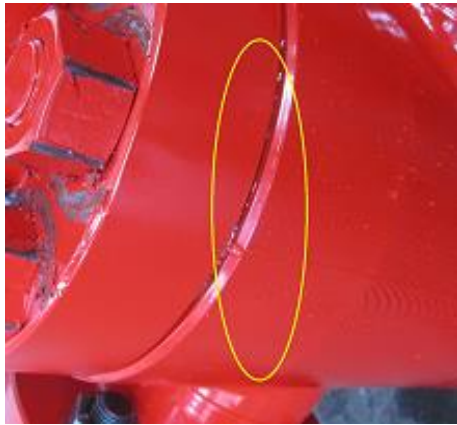
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7-1/16"3000psi seat testing leakage



After repair, it is ok!



4-1/16"5000psi shell testing leakage



After repair, it is ok!



4-1/16"10000psi shell test pressure



Open valve on pressure



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2.5 Drift Test

1) Dimensional Check of Drift

We checked all drift dimension, please see the details as follows:

Valve Size			2-1/16"	3-1/8"	3-1/16"
Drift Dimension	D1	Actual Value	51.9	78.9	77.5
		Standard Value(min)	51.6(+0.68)	78.6(+0.68)	77(+0.68)
		Results	OK	OK	OK
	L	Actual Value	87	95	96
		Standard Value(min)	76	79	78
		Results	OK	OK	OK

Valve Size			4-1/16"	5-1/8"	7-1/16"
Drift Dimension	D1	Actual Value	102.5	129.7	178.65
		Standard Value(min)	102.4(+0.68)	129.4(+0.68)	178.6(+0.68)
		Results	OK	OK	OK
	L	Actual Value	115	140	190
		Standard Value(min)	103	130	179
		Results	OK	OK	OK

<p>Picture of D1</p>	
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Picture of L



2) Drift Test

All valves pass the draft testing pictures



2.6 Document Review

The factory has not finished the MTR and NDT report. They will send documents to RSF for reviewing ,When they finish the documents,

3 Continues works:

1. Take off bore rusty
2. All API 6A marking need stamp again, it must be seen clearly after painting.
3. Add "open" and "close" direction marking on hand wheel
4. Rework painting
5. MTR need finish before shipping

4 Conclusion

The results of all the items we checked are OK exception of problems in red words.

End of the Report
WRITTEN BY: Kevin
CHECKED AND APPROVED BY Ruiyong