INSPECTION REPORT	Report No: 01	Date: 3 Nov. 2013	Page 1 of 11

CUSTOMER DATA				MI DATA	
Client	GNEE Steel (tianjin) Co., Ltd			MI Project No.	29020-1
				Project Name	Yallourn Project
Supplier Job No:				Requisition No:	N/A
Location:	No.4-1114, Beichen Building, Beicang Town Beichen District, Tianjin, China			Date of Order:	N/A
	Hoffman Fang			MI Contract Coordinator:	Cathy Brooks
Inspection Performed:	☒ With Customer Supplier ☒ With Sub-Supplier			Date(s) of Visit(s):	
P.O. No:	Change No:	Requisition No:		Oct, 16 2013/Oct 29,2013/Nov 2,2013	
13YFS92-A Rev.1		N/A		Date of Previous Visit:	N/A

INSPECTION DISPOSITION: ☒ Accept ☐ Nonconformance(s) Identified ☐ Placed on Hold ☐ Other (Explain)

RECOMMENDED ACTION:

n/a

INSPECTION TIME :	☐ DAYS ☒ HOURS	24	TRAVEL HOURS :	4	DISTANCE: ☐ MI ☒ KM	
Technical Specialist:	Cui Shengfei		MI Project Coordinator	Hongyin Yu		

Notice: Moody International accepts no liability for the design, Integrity or overall conformity of items, materials or components inspected.

Date: Oct. 16,2013-External FBE

1.0 ATTENDEES

NAME	COMPANY REPRESENTED	TITLE
Hoffman Zhang	GNEE Steel (tianjin) Co., Ltd	Vice General Manager
Cui Shengfei	Intertek Moody	Inspector

2.0 MATERIAL INSPECTED

ITEM NO.	PRODUCT / MATERIAL / ITEM NAME	ORDERED QUANTITY	PRESENTED THIS VISIT	ACCEPTED THIS VISIT	ACCEPTED TO DATE
1	APL 5L X52M PSL 2 Bevelled End 323.9x6.4mm, L=11.8m, Total 3009m Internal:400μm, liquid Epoxy External:400μm, FBE	3009m	3155.360m		

3.0 DOCUMENTS USED

DOCUMENT NO.	REVISION	TITLE	APPROVAL STATUS

SUMMARY REPORT

API 5L-2012	45th Edition	Specification for Line Pipe	Yes
13YFS92-A	30/05/2013	Purchase order	Yes
HL-ITP-13YFS92-A-FBE	0	Inspection and test plan	Yes
HL-ITP-13YFS92-A-IL	0	Inspection and test plan	Yes

4.0 SCOPE OF INSPECTION

ITP LINE NO.	ITP ACTIVITY DESCRIPTION	ITEMS	RESULTS	CLAUSE
	Reviewed documents		Acceptable	**6.2.1**
	Dimensional inspection		Acceptable	**6.2.1**
3.0	Coating online inspection for external surface		Acceptable	**6.3.1**

5.0 EQUIPMENT AND INSTRUMENTATION USED (TO BE SUPPLIED BY SUPPLIER)

EQUIPMENT / INSTRUMENT DESCRIPTION	CALIBRATION CERT. NO.	EXPIRY DATE
Vernier calipers (0~500mm)	FFL-005	2014-8-8
Wall thickness gauge	FF-D-023	2014-8-7
tape-measure (0~15m)	HL-16	2014-8-8
Angle ruler for bevel	FF-L-008	2014-8-7
Electronic thermometer	FF-T-021	2014-8-7
Roughness meter	FF-O-011	2014-8-7
Psychrometer	FF-T-020	2014-8-7
Conductivity meter	FF-O-007	2014-8-7
Chloride content analyzer	FF-O-005	2014-8-7
Holiday spark detector	FF-E-016	2014-8-7
D.F.T gauge for coating	FF-D-026	2014-8-7

6.0 INSPECTION DETAILS

6.1 Reviewed documents

6.1.1 During this visit, MI inspector reviewed raw material test certificates and found it acceptable.

6.2 Inspection activity

6.2.1 Visual, dimensional, marking verify before coating

a. More pipes had been placed in the coating production line preparation workshop before MI inspector arrived.

b. MI inspector performed the visual inspection for welding seam and surface at random, no defects were found.
c. MI inspector randomly checked the dimension of length, OD, Wall thickness, ovality and bevel angle, found the results were acceptable as per PO and API 5L. The inspect pipe tracing No is 1167480, 1165780, 1167140, 1167360.
d. MI inspector verified the marking on the pipe surface, and label on the pipes, found the information were acceptable.

6.2.2 Blasting inspection for external

a. Verified the compressed air, free of oil and moisture contamination, and checked the air pressure.
b. Witnessed the abrasive conductivity, the actual data is 32.7-14.7=18μS/cm, as required is max 60μS/cm as per ITP requirements, so the result was acceptable.
c. The surface cleanliness can meet the requirement of ISO Sa 2.5
d. Witnessed the surface profile inspection for 5 pipes, the actual data is 69μm, 76μm, 83μm, 72μm, 56μm and 61μm, as requires is 50~100μm as per ITP requirement.
e. Witnessed the chloride content test after blasting for 2 pipes, the actual data is 0.5μg/cm2, as required is ≤25 mg/m2 as per ITP requirement.
f. No oil and/or grease contamination were found on the surface after blasting.
g. All rust and/ or girt was removed on the surface prior to coating.

6.2.3 Coating inspection for external

a. Checked the air humidity, environment temperature and dew point when coat the FEB, the results were acceptable as per manufacturer's product data sheet and ITP

Date: 2013-10-16				Results
Dry temperature	19℃	Humidity	52%	Acc
Wet temperature	13.5℃	Material surface temperature	26℃	
Dew point	8.5℃			

b. Checked the expiration date and lot No for the coating material, and recorded it, the results were acceptable.
c. Witnessed the pipe temperature prior to coat FBE, the results in accordance with manufacturer's recommendations (not exceed 260℃).

6.2.4 Visual inspection for the coating for external

a. MI inspector performed the visual inspection for the external coating, found the results were satisfactory.

6.2.5 Dry film thickness inspection for external

a. MI inspector witnessed the D.F.T inspection for the finish coating, each set consists of three readings then taken the above averaged value as a spot measurement, the records please see below photos, and the results were acceptable (PO required is 400μm).

6.2.6 Holiday spark test

a. MI inspector witnessed the holiday spark test at random for the finished coating at voltage of 5.3KV, no defects were found as per mill process requirement (min 5.0KV).

6.2.7 Adhesion inspection

SUMMARY REPORT

a. Witnessed the adhesion inspection on the pipe's end surface for one point, found the method and results were acceptable accordance with the requirement AS 3862 Appendix J of rating ≤2.

6.2.8 Cut-back inspection

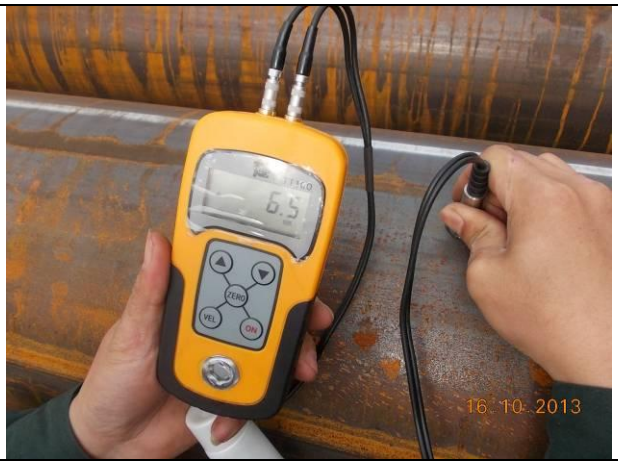
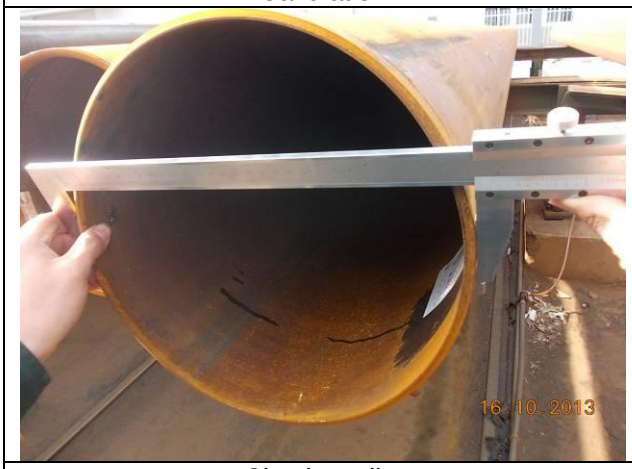
a. The worker removed the coating on the pipe end with a mechanical polishing, and MI inspector checked the cut-back length, found the results were acceptable as per PO requirements (100mm)

6.3 Photos

<table>
<tr><td>
</td><td>
</td></tr>
<tr><td>Before blasting</td><td>Check material</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td>Check dimension marking</td><td>Check bevel ends of the bare pipe</td></tr>
</table>

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SUMMARY REPORT

	
Calibration	Check wall thickness
	
Check ovality	check length
	
Check OD (circumference/Л)	Check OD (circumference/Л)

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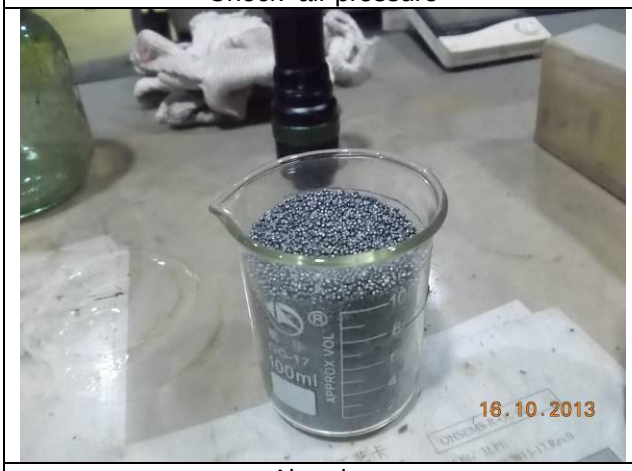
SUMMARY REPORT



Check air pressure



Check humidity



Abrasive



Check conductivity

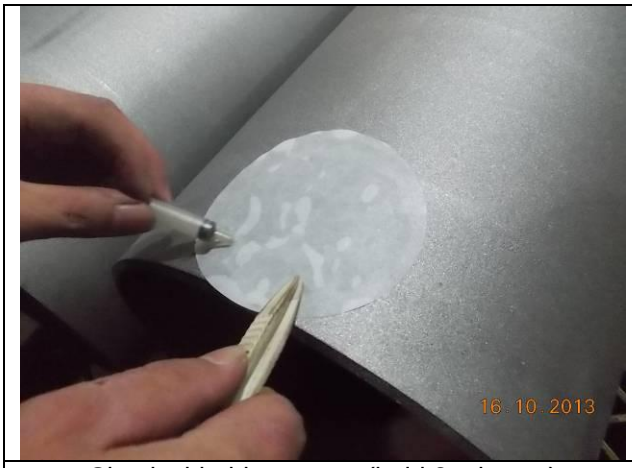


Check surface temperature



Check surface profile

SUMMARY REPORT



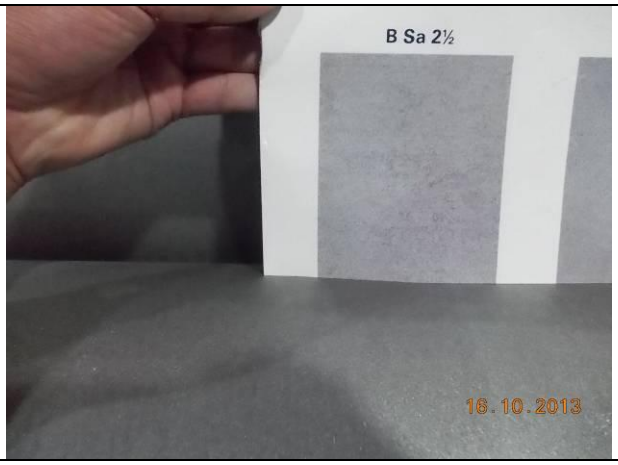
Check chloride content (hold 2 minutes)



Check chloride content



Check cleanliness



Check cleanliness

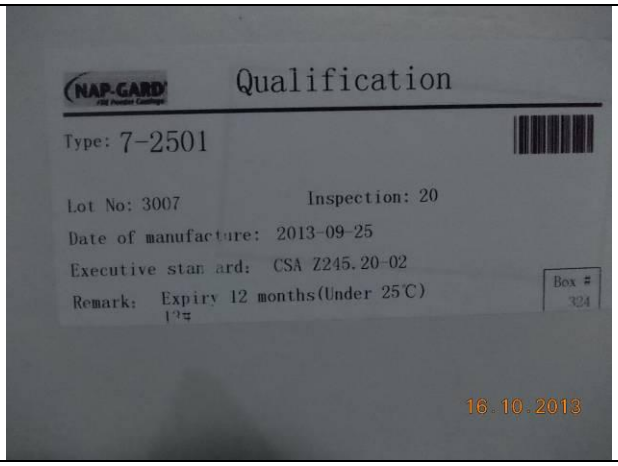
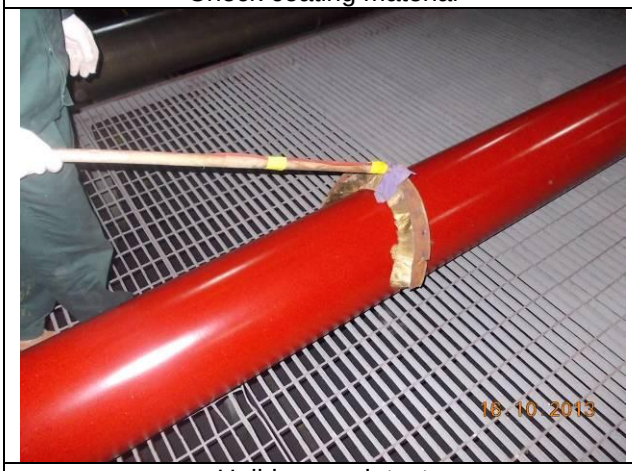


Check Preheat



End protection

SUMMARY REPORT

	
Check coating material	Check coating material
	
Holiday spark test	voltage
	
Alarm (if found holiday)	Adhesion test

SUMMARY REPORT

	
Adhesion test	Check cut-back
	
Check D.F.T	Check D.F.T

Date: Oct.29,2013-Finished Products

6.4 Inspection activity

6.4.1 Visual, dimensional, marking verify before coating

6.4.2 MI inspector performed the visual inspection for the external coating at random, found the surface of 5 repaired area were not smooth, and then the worker removed them and repair it.

6.4.3 MI inspector performed the visual inspection for the internal coating at random, the pits were found on the end of each pipe, which were caused by the wet film thickness test, MI inspector could not measure the thickness of this parts whether meet the requirement, and the surface was not flat, then the factory replied that they were repairing them, and the repair work would be finish on 30th, Oct. 2013.

6.5 Witness dry film thickness for internal coating

h. MI inspector witnessed the dry film thickness for the internal coating at random, the PO's required is min 400µm, and the records please see below table.

SUMMARY REPORT

Pipe No	Results (μm)	Pipe No	Results (μm)
1166070	558, 570, 683, 725, 655, 672	1166790	728, 584, 519, 600, 560, 652
1167600	468, 513, 626, 616, 549, 631	1166480	538, 543, 471, 496, 416, 502,
1166440	980, 904, 815, 914, 728, 798	1167250	662, 778, 681, 689, 522, 521, 738
1167100	715, 797, 735, 697, 729, 540, 824	1167530	913, 701, 868, 869, 1030, 611, 849
1166390	848, 740, 991, 887, 813, 755, 730	1165270	736, 642, 848, 1080, 688, 897, 927
1166990	493, 660, 631, 810, 794, 722, 643	1166160	718, 614, 657, 655, 669, 563, 598
1165330	823, 772, 779, 621, 674, 641, 749	1167610	617, 700, 685, 635, 600, 581, 671
1167740	956, 882, 1030, 892, 920 938, 908		

6.5.1 Holiday spark test

b. MI inspector randomly selected two pipes to check the holiday spark test, the voltage was set to 2.0KV, no defects were found as per mill process requirement (min 2.0KV).

6.2.9 Cut-back inspection

b. MI inspector checked the cut-back length of internal coating, the results were acceptable as per mill/PO requirement.

6.6 Photos



Not acceptable for visual inspection



Remove the defect coating

SUMMARY REPORT



Re-coat



After repair



Pits were found



After repaired (need grind smooth)

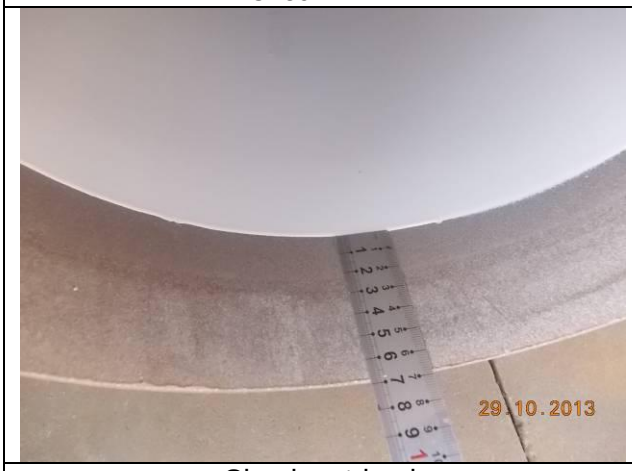
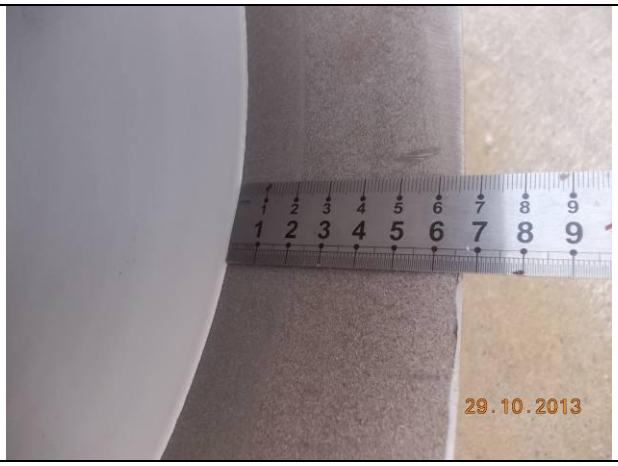


Visual inspection



Calibration

SUMMARY REPORT

	
Check D.F.T	Check D.F.T
	
Check D.F.T	Check D.F.T
	
Check cut-back	Check cut-back

SUMMARY REPORT

	
Holiday spark test	Holiday spark test
	
Internal coating were found on the external surface (Atomization)	Clean the surface
	
Clean the surface	Clean the surface

Date: 2 Nov.,2013-Container Loading

1.0 INSPECTION DETAILS

1.1 Fabrication Status

When MI inspector arrived at the coating mill, 267 pieces of OD323.9mm x WT6.4mm external and internal coated pipes were stacked orderly at the storage. Every three pipes are fastened together into one bundle with packaging belt. And every pipe is evenly tied up with six safety ropes and capped at both ends.

1.2 Loading Inspection

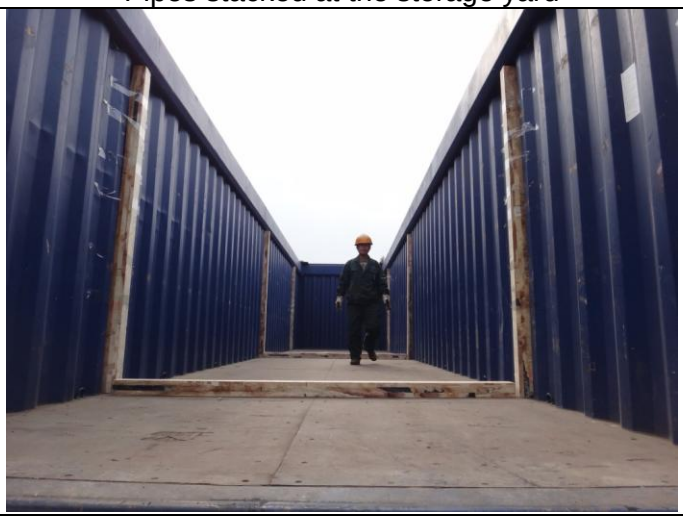
Total 267 joints OD323.9mmxWT6.4mm pipes (overall length 3155.36m) were loaded into 7 containers as scheduled. The coating applicator utilized frame crane with nylon belts to lift the pipes, every lift carrying 2 bundles of 6 pipes. Before loading the pipes, 9 poly woods were laid at internal bottom and both sides of the container against any sliding, scratching and other damage probability. The top of container was covered with tarpaulins and supported with 20 beams.

Below is the detailed storage info of 7 containers, for more details see the pictures attached.

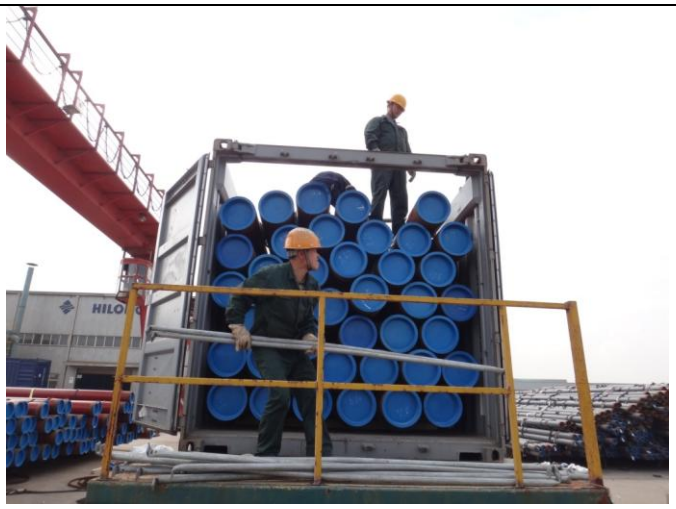
Container No.	Quantity (jts)
TRIU 050674 8	39
CBHU 541236 3	39
CXSU 100901 7	39
CXSU 101073 8	39
TEXU 152743 8	39
CXSU 100992 7	39
TRIU 056286 5	33

2.0 Photographs

SUMMARY REPORT

	
Pipes stacked at the storage yard	Safety ropes and nylon belts on pipes
	
Containers equipped with poly wood	Poly wood utilized

SUMMARY REPORT

	
Loading pipes to the container	Workers passing the steel beams for top-supporting
	
Workers tying up the waterproof tarpaulin	The outcome after everything done

3.0 NON-CONFORMANCES

N/A

4.0 EXPECTED FEEDBACK AND CONFIRMATION OBTAINING FROM CLIENT

N/A