

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009220**Date Inspected:** 23-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:****CWI Present:**

Yes No

**Inspected CWI report:** Yes No N/A**Rod Oven in Use:**

Yes No N/A

**Electrode to specification:** Yes No N/A**Weld Procedures Followed:**

Yes No N/A

**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:**

Yes No N/A

**Approved Drawings:** Yes No N/A**Approved WPS:**

Yes No N/A

**Delayed / Cancelled:**

Yes No N/A

**Bridge No:** 34-0006**Component:** Deck Panel**Summary of Items Observed:**

On this day Caltrans OSM Quality Assurance (QA) Inspector Christopher D'souza was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhen Hua Port Machinery Company (ZPMC) at Chang Xing Island in Shanghai, China. QA Inspector observed and/or found the following:

On this date QA Inspector Christopher was given ZPMC NDT Inspection Notification Sheet. This QA Inspector performed required Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality control personnel, on the following items listed for the OBG sub-assemblies in Bay No. 9:

DP3029-001-036, 37, 46, 47, 56, 57

The QA Inspector observed no rejectable indications at the time of testing.

An Ultrasonic Testing Report (TL 6027> UT) was generated for the items above.

QA inspector performed conventional Ultrasonic (UT) Inspection on deck panel tack weld areas. The inspection is preliminary prior to using the phased array (PAUT) testing system to verify indications found with conventional Ultrasonic testing. QA inspector performed UT on deck panel DP3040-001, 3 ribs, 6 welds, 42 total tack welds inspected.

Weld 1 scanned 7 locations with 0 indications.

Weld 2 scanned 7 locations with 0 indications.

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Weld 3 scanned 7 locations with 0 indications.

Weld 4 scanned 7 locations with 0 indications.

Weld 5 scanned 7 locations with 2 indications.

Weld 6 scanned 7 locations with 0 indications.

QA Inspector performed initial Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds, # UT 04-0120F4 PJP Rib Weld" after conventional UT was performed on tack welded areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plate. The deck panels examined are as follows:

DP3040-001: 1 tack weld locations found compliant and 1 tack weld locations found non-compliant.

This QA Inspector performed Magnetic Particle Testing (MT) of approximately 15% of the area previously tested by ZPMC MT personnel. This QA Inspector generated a TL-6028 MT report on this date. The weld designation numbers is as follows:

DP 238-001- 001~010

DP 427-001- 001~010

QA Inspector performed Final Visual Inspection following the guide lines of AWS-D1.5 on Deck Panel assemblies including Partial Penetration (PJP) welds joining U-ribs to deck plate. The deck panels examined are as follows:

DP 238-001: Final VT appears to comply with code and contract requirements.

DP 427-001: Final VT appears to comply with code and contract requirements.

QA Inspector performed Green Tagging activities following the green tagging procedure. The deck panels green tagged are as follows:

DP 238-001: Green Tag Number 7887

DP 427-001: Green Tag Number 7888

QA Inspector performed Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds, # UT 04-0120F4 PJP Rib Weld" after ZPMC welding personnel performed weld repairs of tacked areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plate. The deck panels examined are as follows:

DP400-001: 0 tack weld location found compliant and 1 tack weld locations found non-compliant.

DP107-001: 1 tack weld location found compliant and 0 tack weld locations found non-compliant.

DP512-001: 1 tack weld location found compliant and 0 tack weld locations found non-compliant.

Tack weld locations found non-compliant are marked on U-rib and deck plate for ZPMC's reference for repair. See Caltrans U-rib to Deck Panel- Tack Weld Assessment sheets dated 23rd September, 2009 for further information on PAUT inspections.

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**Summary of Conversations:**

No relevant conversations.

**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dsouza,Christopher	Quality Assurance Inspector
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<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer
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