

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-009714**Date Inspected:** 09-Oct-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:** Sun Wei**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 Panels**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:

This QA Inspector evaluated status of lift 11 Deck Panel. Data was collected and passed on to QA Inspector Gary Richmond. Deck Panel log sheet has been updated.

**North Lay down**

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 481-001- 001~008

DP 267-001- 001~008

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 481-001: Final VT appears to comply with code and contract requirements.

DP 267-001: Final VT appears to comply with code and contract requirements.

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

DP 481-001: Green Tag Number 7893

DP 267-001: Green Tag Number 7894

The 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. The QA inspector performed UT on Deck Panel DP 428-001, 5 ribs, 10 welds, 280 total tack welds inspected.

Weld 1 scanned 28 locations with 3 indications.

Weld 2 scanned 28 locations with 2 indications.

Weld 3 scanned 28 locations with 10 indications.

Weld 4 scanned 28 locations with 2 indications.

Weld 5 scanned 28 locations with 2 indications.

Weld 6 scanned 28 locations with 3 indications.

Weld 7 scanned 28 locations with 2 indications.

Weld 8 scanned 28 locations with 3 indications.

Weld 9 scanned 28 locations with 4 indications.

Weld 10 scanned 28 locations with 4 indications.

QA Inspector observed ZPMC NDT technician perform MT (Magnetic Particle Testing) on U-Rib to deck plate of DP 484-001 (11DE), MT was performed on PAUT repair areas, VT rejected repair areas and on the cover pass. This inspection by ZPMC is for final acceptance of this deck panel and prior to notifying QA for inspection.

Bay 9

This QA Inspector observed ZPMC welding personnel performing Gas Metal Arc Welding (GMAW) tack welds on closed rib Partial Joint Penetration (PJP) welds to deck plate designated as DP 3025-001. Welder is identified as 059440. ZPMC QC is identified as Chen Shi gang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2342 – U5

This QA Inspector observed ZPMC welding personnel performing automated, in gantry, Gas Metal Arc Welding (GMAW) of closed rib Partial Joint Penetration (PJP) welds to deck plate designated as DP3051-001 and DP3065-001 on Gantry #2. In process GMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure.

This QA Inspector observed ZPMC welding personnel performing automated, in gantry, Submerged Arc Welding (SAW) of closed rib Partial Joint Penetration (PJP) welds to deck plate designated as DP3051-001 and DP3065-001 on Gantry #2. In process SAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure.

Welders are identified as 059416, 059421, 059418, 201840, 201788 and 059403. ZPMC QC is identified as Chen

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Shi gang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2342 – U1

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 9th October, 2009 for further information on Gate to Gate and PAUT inspections.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### 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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