

**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-007023**Date Inspected:** 30-Jan-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 / Sun Bo**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:** OBG Components**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**OBG Sub-Assembly Bay 12:**

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 millimeter (mm) thick I-Ribs Deck Plate 1AW-DP565-001 at Complete Joint Penetration (CJP) Weld Joint (WJ) Numbers 009, 011 and 013. DP565-001 is placed upside down with heat being applied directly to the welds attaching the I-Ribs to DP565-001. The QA Inspector randomly observed that both restraints and jacks (passive) were being used but no counter weights. The work was being performed in accordance with ZPMC Heat Straightening Request (HSR) HSR(B)-255 Rev. 0.

The QA Inspector randomly observed a ZPMC Carbon Air Arc Gouging (CAAG) Operator utilizing the CAAG Process to gouge out and remove rejects detected during a previous ZPMC QC Ultrasonic Testing (UT) Examination in WJ 014 in Deck Plate 1AE-DP610-001.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend the cover passes on the reinforcing fillets on CJP WJ's 011, 013, 015 and 017 on Deck Plate Sub-Assembly 1AW-DP545-001.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to

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reduce weld induced distortion from welding the T=35 millimeter (mm) thick I-Ribs Deck Plate 1AW-DP615-001 at CJP WJ's 011, 013, 015, 017 and 019. DP615-001 is placed upside down with heat being applied to the underside of the base plate of 1AW-DP615-001. The QA Inspector randomly observed that no restraints, jacks (passive) or counter weights were being used. The work was being performed in accordance with ZPMC Heat Straightening Request (HSR) HSR(B)-251 Rev. 0.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend the cover passes on the reinforcing fillets on CJP WJ's 013, 015, 017, 019 and 021 on Deck Plate Sub-Assembly 1AW-DP560-001. The QA Inspector randomly observed that there were still several areas excavated but not repaired in WJ's 015, 017 and 019.

The QA Inspector randomly observed ZPMC welder Jiang Jing Guang ID 062265, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC Weld Procedure Specification (WPS) WPS-345-FCAW-2G (2F)-Repair-1, to perform weld repairs in excavated areas of WJ 021 on Deck Plate 1AE-DP590-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Non Destructive Testing (NDT) Technician Cai Xin Xin utilizing the Magnetic Particle Testing (MT) Method to examine 3 each excavations in WJ 021 prior to weld repair.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend the cover passes on the reinforcing fillets on CJP WJ's 013, 015, 017, 019 and 021 on Deck Plate Sub-Assembly 1AE-DP590-001.

The QA Inspector randomly observed a ZPMC CAAG Operator utilizing the CAAG Process to gouge out and remove rejects detected during a previous ZPMC QC Ultrasonic Testing (UT) Examination in WJ 019 and 021 in Deck Plate 1AE-DP600-001 (In Process Yellow Tag 002258).

The QA Inspector randomly observed ZPMC welder Jiang Jing Guang ID 062265, utilizing the FCAW Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC WPS WPS-345-FCAW-2G (2F)-Repair-1, to perform weld repairs in excavated areas of WJ 017 on Deck Plate 1AW-DP560-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 millimeter (mm) thick I-Ribs Deck Plate 1AW-DP550-001 at CJP WJ's 013, 015, 017, 019 and 021. DP550-001 is placed upside down with heat being applied to the underside of the base plate of 1AW-DP550-001. The QA Inspector randomly observed that no restraints, jacks (passive) or counter weights were being used. The work was being performed in accordance with ZPMC Heat Straightening Request (HSR) HSR(B)-248 Rev. 0.

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

### **Summary of Conversations:**

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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 150-0042-2372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Franco,Charlie	Quality Assurance Inspector
<b>Reviewed By:</b>	Clifford,William	QA Reviewer

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