

**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-002758**Date Inspected:** 25-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**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:** OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Larry Viars was present to perform Visual Testing (VT) of the Orthotropic Box Girder (OBG) components, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

The Caltrans QA Inspector performed Final Visual Testing and Magnetic Particle Testing verification after ZPMC repair of OBG 8.557 Deck Panel DP014-002 welds 001 through 008. Welding appeared to meet the requirements of contract documents.

The Caltrans QA Inspector observed ZPMC welder Mr. Tang Ke tack welding Deck Plate DP603-001 U-ribs utilizing Gas Metal Arc Welding (GMAW) welding process. Welding appeared to be in conformance with the Posted Welding Procedure Specification WPS-B-T-2342-U2 (u-rib). The following welding variables were recorded during welding, amperage 330, voltage 29.1, travel speed of 545 mm/min., and a heat input of 1.05 kJ/mm

The Caltrans QA Inspector performed visual inspection of OBG 11.355 meter deck panel DP608-001 (welds 001 through 006) U-rib Partial Joint Penetration (PJP) welds. Visual testing of welding was performed in accordance with contract documents. The following discontinuities were found during inspection on the Submerged Arc Welding (SAW) cover pass, incomplete fusion, overlap, undercut, underfill and oversize welds. Welding discontinuities were marked on deck panel with a permanent marker, length and Y location recorded. Visual Inspection results were distributed to the appropriate personnel for review. A summary of discontinuities on inspected U-rib PJP welds are listed below. Please see the attached photo of Underfill and Incomplete Fusion

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identified during inspection.

DP608-001

DP608-001-001, Incomplete Fusion 7 areas, Underfill 6 areas, and Overlap 2 areas

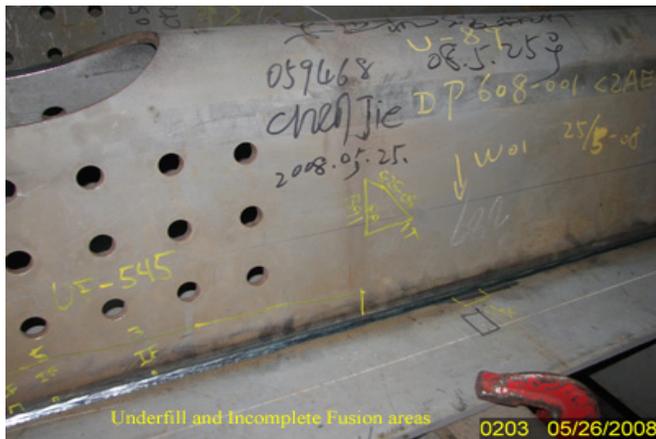
DP608-001-002, Underfill 7 areas

DP608-001-003, Incomplete Fusion 2 areas, Underfill 9 areas, and Undercut 2 areas

DP608-001-004, Incomplete Fusion 4 area, Underfill 8 areas, and Overlap 1 area

DP608-001-005, Incomplete Fusion 1 area, Underfill 6 areas, and Undercut 1 area

DP608-001-006, Incomplete Fusion 7 areas, and Underfill 8 areas, and Oversize 1 area



## Summary of Conversations:

No relevant conversations occurred this date.

## 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Viars,Larry	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer
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