

**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-000743**Date Inspected:** 29-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Ye Yong Jun & Xu Xianping	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes	No N/A
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes	No N/A
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes	No N/A
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes	No N/A
		<b>Delayed / Cancelled:</b>	Yes	No N/A
<b>Bridge No:</b>	34-0006	<b>Component:</b>	Caltrans Mockup	

**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fit up, welding and related activities associated with the fabricating of Caltrans Mock-up, 77M, 89M, 114M and U-Rib Trial Assembly, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Item	Description	WBS	Dwg No.	Status
1	Diaphragm Plate p1235	NA	NA	ZPMC MT

Mock-Up 89M, SA13 (p1235) Diaphragm Plate, Assess Opening Ring: Caltrans QA Inspector witnessed ZPMC Quality Control inspector, Mr. Cai Xin Xin perform magnetic particle test (MT) and Visual Test (VT) inspection at partial joint penetration (PJP), tee-joint weld cover pass, weld 10A and 10B. ZPMC MT coverage appeared to be 100 percent of the weld, The location is identified access opening ring to diaphragm plate p1235. The MT appeared to be in compliance with the project specification and found to be in compliance by QC.

Caltrans QA Inspector performed MT and VT inspection of the weld 10 A and 10B cover pass weld. See Caltrans Magnetic Particle Test Report, TL6028, generated on this date for additional information. Following digital picture illustrates ZPMC MT inspection.

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )



2	Skin Plate C	NA	NA	Welding in Progress
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Mock-Up 89M, Skin Plate D: Caltrans QA Inspector observed submerged arc welding (SAW) in progress at complete joint penetration (CJP) plate splice weld, joining the upper and lower plate sections. The welder operator is identified as Ms. Gu Caihong, welder stamp 053748, welding fill pass weld in the flat position. The welder is using welding procedure specification, WPS-B-T-2221-B-U3c-S, Revision 0. Caltrans QA Inspector measured current welding parameters at approximately 645 amps, 31.5 volts and travel speed, 615 millimeters per minute (mm/min). Preheat and interpass temperatures were verified during welding activities. Preheat temperature prior to the start of welding measures more than 110 degrees Celsius (230 degree Fahrenheit) but less than 232 degrees Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. SAW consumables were verified and identified as JW-3, classification EM12K, diameter 4.8 mm (.189 inches) electrode and, JF-B Flux, classification F7A2.

3	OBG small parts	NA	NA	palletized parts
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Orthotropic Bridge Girder (OBG): Caltrans QA Inspector observed ZPMC practice welding on the u-rib trial assembly. It appeared that ZPMC was still making welding equipment adjustments at Shop #1. Caltrans QA Inspector observed ZPMC material identification transfer markings for heat number, batch number, material thickness, material type and grade. The small parts were flame cut at the burn table in the Mockup Shop, building #2. These parts were stacked on pallets and identified as X3-X3N, X3-X3L, X3-X3M, and X3-X3K. Following digital pictures illustrates transfer of the material identification and palletized parts.



## Summary of Conversations:

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# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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As identified within the contents of this report.

## **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>	Hasler, Mike	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer

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