

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-001659**Date Inspected:** 02-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Fu Yu Hong**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 Deck panels**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

The QA inspector performed 100 % ultrasonic testing (UT) to the partial penetration joint on the production monitoring test (PMT) welded for the deck panel DP-030-002 and DP-068-001, weld joints # 1 thru 6. See the UT report TL_6027 generated on this date.

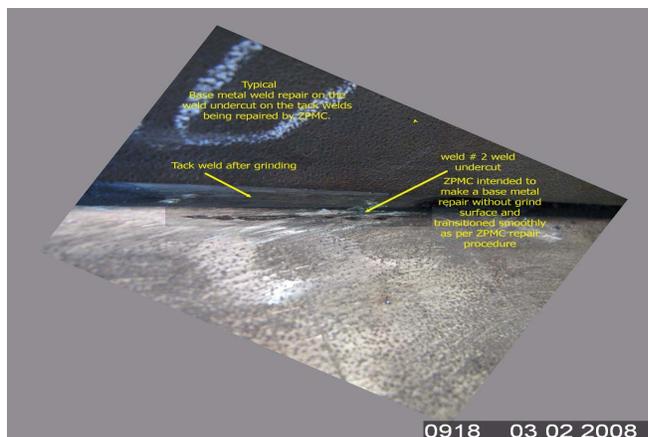
The QA inspector had a conversation with the Assistant of Structures Representative Alistair Melville. Mr. Alistair Melville relayed to the QA inspector that ZPMC was performing base metal repairs on the deck panel DP-027-001. The QA inspector observed that after grind the tack welds at the junctions of the U-ribs to the deck panel DP-027-001, ZPMC had undercut the base metal approximately 2 mm on depth. ZPMC resolved to performed base metal repair without Engineer approval by striking an arc in localized areas using the gas metal arc welding (GMAW) process to fill the location with undercut. The QA inspector had a conversation with the Task Leader Craig Hager. The QA inspector informed Mr. Craig Hager that ZPMC was performing base metal repairs without the Engineer approval and without following the approved WPS procedure by striking an arc and made weld puddles to fill the undercut areas. The QA inspector had a conversation with ZPMC representative Lay Tao. The QA inspector brought to Mr. Lay Tao attention that ZPMC was performing base metal repairs without the Engineer approval and ZPMC was not following ZPMC repair procedure and ZPMC welding procedure specification by grinding and transitioning smoothly the surface to be weld. See digital photograph below.

The QA inspector had a conversation with the ZPMC QC representatives Li Li Ming and Fu Yu Hong the QA

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

inspector asked Mr. Fu Yu Hong to translated for the QA inspector. The QA inspector asked Mr. Li Li Ming if all the ZPMC technicians evaluated the partial penetration joints (PJP) at the junction U-ribs to deck plates (production and PMT) considering the UT correction factor for evaluating the lack of penetration (LOP) of 0.8 mm in lieu of 1.2 mm . Mr. Li Li Ming said that all the UT technicians evaluated inadvertently the amount of LOP adding 0.8 mm in lieu of 1.2 mm. The QA inspector asked how many production monitoring tests (PMTs), ZPMC examined with the 0.8 mm correction factor. Mr. Li Li Ming informed that the first thirteen PMTs were evaluated with 0.8 mm correction factor. In addition, Mr. Li Li Ming said that ZPMC would re-evaluate 100 % of the tacks on the deck panel DP-058-001 and DP-015-001.



Item Description

WBS

Dwg No.

Status

1 Tack welds Terminations on U-ribs

The QA inspector observed numerous locations where ZPMC partially ground the end of the tacks leaving a sharp notched transitions (tack weld end contours appeared not allow to provide sound fusion of the subsequent pass which could lead in lack of penetration at the end of the tacks). The QA inspector had informed on several occasions to ZPMC and ABF representatives that the ends of tack welds after grinding did not have smooth transition. The QA inspector had a conversation with the Caltrans Task Leader Craig Hager and ZPMC QC inspector Chen Xi. Mr. Craig Hager and Mr. Chen Xi agreed with QA inspector that the ends of the tack welds needed to have a smooth transition to provide a sound weld with the required depth of penetration. ZPMC repaired all the ends of the tacks weld that had the mentioned condition.

See digital photograph below.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

As note above.

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.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
