

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-004079**Date Inspected:** 29-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 600**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai China**CWI Name:** 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**Summary of Items Observed:**

OBG Bay 1 PMT

This QA inspector observed ZPMC in bay 1 OBG for deck panel production monitoring test (PMT) for production date 9-30-08 on deck panel DP590-001. ZPMC welded the GMAW root pass and the SAW process after which ZPMC, ABF and this QA inspector performed a visual inspection of the weldment and found them to be within the criteria outlined for the PMT's. The PMT was welded on 3 separate plates with 3 closed ribs for welding of DP565-001 for this test. After the inspection was completed this QA inspector identified the area for the Macroetches location to be cut and ground. The Caltrans steel die stamp was placed at each Macroetches location to identify the side for the acid etches. ZPMC the proceeded to perform the UT testing of the depth of penetration and it was relayed and witnessed to be within the criteria outlined. This QA inspector along with ZPMC and ABF evaluated the Macroetches for PMT-1 and found them to be within the guidelines of the criteria for the PMT.

OBG Bay 1

The Caltrans QA observed ZPMC has approximately thirty (30) to forty (40) workers performing various functions relative to the fabrication of the OBG Deck Panels. These functions include; closed rib milling, PJP weld joint beveling, drilling thru holes, press forming, closed rib splice welding, closed rib diaphragm fit-up and FCAW welding of splices, closed rib to deck plate fit-up and tack welding and the PJP welding of closed ribs to deck plates. Deck Plates at the gantry stations were, Gantry-1, DP497-001 and DP585-001 had SAW and GMAW completed previously. Gantry-2, DP411-001 had SAW and GMAW completed previously. Tack welding table had 1 deck panel in process for fit and tack welding which was DP590-001. Caltrans QA inspectors received a notice of inspection from ZPMC for the diaphragm plates on DP590-001 which when this QA inspector arrived to perform the QA review for UT the closed ribs were already fit to the deck plate, the QA inspector was not able to perform the QA review due to no access.

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Ultrasonic verification of weldments

This Quality Assurance (QA) inspector arrived at ZPMC in Shanghai China for random observation of Orthotropic Bridge Girders (OBG) and Self Anchored Suspension (SAS) Bridge. This QA inspector received NDT notification number 1115, 1116 and 1117 from ZPMC and proceeded to perform Ultrasonic verification (UT) on bottom plates, BP038-001-001~006, 019~021, 023, 025, 027 and 029, BP146-001-001~006, 019~021, 023, 025, 027 and 029, BP092-001-001~006, 019~021, 023, 025, 027 and 029, BP119-001-001~006, 019~021, 023, 025, 027 and 029, BP173-001-001~006, 019~021, 023, 025, 027 and 029 and BP065-001-001~006, 019~021, 023, 025, 027 and 029..

ZPMC had performed 25% UT testing for the weldments as outlined in the contract documents and had accepted the percentage as acceptable. This QA inspector performed 10% UT verification on the percentage that was performed by ZPMC and at the time of the QA review found the areas appeared to be within contract documents. After ZPMC had performed their testing and accepted the weldments. A TL-6027 will be generated for these locations. Caltrans QA Inspector performed UT verification for weld number WSD1-SA301 A/B- 7A/B after ZPMC had performed their UT examination and accepted the welds. This Caltrans QA Inspector discovered a class A indication on Face B at the toe of the weld. ZPMC Ken Zhang was informed of this finding and to inform QC UT technician that this weld needed to be re-evaluated by ZPMC.



Summary of Conversations:

As noted 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 Ady Velasco , 1-381-694-2685, who represents the Office of Structural Materials for your project.

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| Inspected By: | Riley, Ken | Quality Assurance Inspector |
| Reviewed By: | Carreon, Albert | QA Reviewer |
