

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012840**Date Inspected:** 30-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**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:** Orthotropic Box Girders (OBG)**Summary of Items Observed:**

Erection Site

Quality Assurance inspector (QA) Michael Foerder was at the American Bridge/Flour (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. OBG Field Splice 2E/3E C-2 (Deck Plate) in process welding.
2. OBG Field Splice 3E/4E A-3, A-4, A-5 In process Ultrasonic Testing

Field Splice 3E/4E Face B-1

Upon arrival at the weld joint, it was discovered the pre heat and interpass temperature of the in process weld between approximate Y location 5200mm – 7000mm was insufficient and verified to be 38° C at its lowest and 65° C at the highest. This information was relayed to the QC inspector Bernard Docena and efforts were made by the contractor to raise the induction blankets and provide localized heating to restore the pre heat and interpass temperature to contract requirements. This information was relayed to QA lead inspector Bill Levell and an incident report will be generated for this item for this date. No welding had commenced at this location on this date, however the root and a subsequent weld pass was placed the previous day. The heat was restored and verified by the QC and QA inspector and the welder proceeded with the welding process.

The QA inspector periodically observed the in process Flux Cored Arc Welding (FCAW-G) being performed by ABF welding personnel Mitch Sittinger and Song Tao Huang between the aforementioned Y locations. QC inspector Bernard Docena was noted to be present in order to monitor the progress and ensure the welding was

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within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D1.5-3042A-1. The preheat and interpass temperature was verified by the QC and QA inspector to be greater than 93° Celsius (C) and the parameters were verified to be 250 amps, 24.2 volts and a measured travel speed of 260mm/min. The welder is in the process of placing the fill passes at this time. A digital photo is included in the body of this report for general information.

The work progressed throughout the morning shift and just prior to the lunch break the welder was noted to be placing the final cover pass in this area and relayed to the QA inspector he would be relocating further up the side plate to approximately Y location 5200mm – 2700mm. The work appeared to be progressing in general conformance with the contract documents.

Field Splice 3E/4E Face A

The QA inspector periodically observed QC inspector Tom Pascaulone performing ultrasonic testing (UT) for the completed weld Face A in the area designated as A-3 and A-4. The QC inspector was noted to be utilizing a zero degree (straight beam) transducer in order to exam the area for laminar reflectors and for locating the internal rib stiffeners to assist in the interpretation of the shear wave 70° scan. The QC inspector proceeded with the shear wave examination and discovered a rejectable indication at approximate Y location 16,300mm approximately 50 mm in length and marked this area for repair.

Later in the shift the QA inspector observed Mr. Pascaulone continuing the UT examination at Face A in the area designated as A-5. Mr. Pascaulone was observed utilizing a zero degree and 70° transducer at separate intervals and discovered an additional rejectable indication close to the end of the weld. The area was marked by the QC inspector for repair and Mr. Pascaulone relayed to the QA inspector he had completed the UT with 2 rejects discovered ultrasonically and an additional area discovered by visual inspection which would require welding due to insufficient fill. No remedial work was performed at this location for the QA inspector's shift and the items observed appeared to be in general conformance with the contract documents with the exceptions noted above.



Summary of Conversations:

As noted above in summary of items observed.

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 Mohammad Fatemi (916)813-3677, who represents the Office of Structural Materials for your project.

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Inspected By:	Foerder, Mike	Quality Assurance Inspector
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Reviewed By:	Levell, Bill	QA Reviewer
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