

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-014333**Date Inspected:** 24-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**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:**

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 3E/4E Face C (Outside) UT Review
2. OBG Field Splice 4E/5E Face D (Inside)
3. OBG Field Splice 5E/6E Face A (Outside)

Field Splice 3E/4E Face C (Outside) UT Review

The QA inspector periodically observed QC inspector Steve McConnell performing and Tom Pascaulone assisting the Ultrasonic Testing (UT) for weld faces designated C1 and C2 for the repair locations previously identified and repaired on 5-21 and 5-22. The QC inspector was noted to be performing the UT utilizing a 70 degree transducer and wedge for the shear wave examination as the lamination scan has been previously performed. QC inspector Steve McConnell relayed he did not discover any rejectable indications for the first two repair areas and proceeded to the other 2 locations. A short while later it was relayed no rejectable indications were discovered in these areas and the contractor would be relocating the scaffold platform later in the shift. The QA inspector relayed to field engineering superintendent John Callaghan verbally a representative portion of the repair locations would be UT reviewed by QA after the calibration of the unit was performed.

The QA inspector performed the UT review at approximate Y locations 5100 for C2 and then proceeded to C1 at approximate Y location 200. No rejectable indications were discovered at Y location 5100 however a class A

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rejectable indication was observed at Y location 195mm for C1. The QA inspector spoke with QC inspector Steve McConnell in regards to the indication observed and the QC inspector reviewed the area with the QA inspector in order to verify if there was a difference in the calibration set up and equipment. The QC inspector confirmed the class A indication at 5mm deep, approximately 10mm long with an indication rating of a +7 and marked the area for repair. A digital photo is included in the body of this report for general information. It was discussed with the QC inspectors this was a third time repair which according to the contract documents requires the engineer approval. The QC inspector relayed they would inform the contractor of the indication and the QA inspector relayed this information to lead QA inspector Bill Levell. With the discovery of the indication, the QA inspector elected to perform a UT review of an additional repair area located approximately mid span of weld C2 with no rejectable indications noted at the time of review. A TL-6027 will be generated for this item for this shift. An incident report was not generated for this issue as this was the first QC overlook for this issue.

Later in the shift at approximately 1130 the QA inspector inquired from QC inspector Steve McConnell the status of the approval paperwork for the repair and it was relayed he gave the information to his lead QC inspector Mike Johnson and the welder was preparing to excavate the indication shortly with approval to weld to follow. The QA inspector relayed this information to lead QA inspector and approval to excavate was granted and approval to weld would be granted once the repair package was submitted to the engineer for approval. At 1400 no submittal package was provided to the QA inspector's knowledge.

Field Splice 4E/5E Face D (Inside)

The QA inspector periodically observed ABF welding personnel Jordan Hazalaar performing shielded metal arc welding (SMAW) for the balance of the weld face designated D1 between approximate Y locations 100-900mm. This area was held off from the submerged arc welding (SAW) process due to limited access issues and the contractor has elected to complete this area by manual welding in lieu of semi automatic. QC inspector Bonafacio Daquinag was noted to be present in order to monitor the progression and adherence to the WPS identified as ABF-WPS-D15-3040C. The pre heat and interpass temperature was verified to be within the established guidelines and the welding parameters were verified to be 165 amps for Mr. Hazalaar. The welder completed the work at the south side of the OBG at this location and proceeded to perform the welding at the North side of the weld face with the same QC inspectors noted to be present. The work progressed throughout the QA inspector shift, was not completed and the appeared to be in general conformance with the contract documents.

Field Splice 5E/6E Face A (Outside)

The QA inspector noted this weld joint has been completed and did not observe any work being performed at this location for the weld joint. However the contractor is in the process of performing two welder qualifications utilizing the SAW process with QC inspector Tony Sherwood being present to monitor and record the work.

