

**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-013432**Date Inspected:** 20-Apr-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 1E/2E Face C (Second Side-Outside)
2. OBG Field Splice 2E/3E C1-C2 UT (Second Side-Outside)
3. OBG Field Splice 3E/4E B1 Weld Build up/Grind (Second Side-Outside)
4. OBG Field Splice 3E/4E F-1 Backgouge (Second Side-Inside)

**Field Splice 1E/2E Face C (Second side-Outside)**

Upon a general review of the progression of the work at the beginning of the shift it was noted the contractor was in the process of applying the coating to the entire length of weld at this location. The QA inspector spoke with ABF field Engineer John Callaghan and relayed this weld had rejectable indications discovered during ultrasonic testing (UT) which were repaired the previous day late in the shift and inquired about the contract 24 hour hold time for the final UT of the repairs. Mr. Callaghan relayed they would examine the repair areas from the inside as he was not aware of any areas which would require scanning from the outside. The QA inspector spoke with QC inspector Jessie Cayabyab and Mr. Cayabyab relayed he had performed a preliminary scan of the repair areas from the outside with no rejectable indications noted at the time of review and would be performing the final scan from the inside once the contract hold time was satisfied. The QA inspector reviewed the inside weld surface and confirmed several repair locations passed through the longitudinal stiffeners and required the scan from the outside

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in order to obtain full coverage of the weld. See digital photos in the body of this report for clarification. This information was discussed with the QC inspector again in which the QC inspector relayed no indications were observed in these particular locations from the outside preliminary scan. The QA inspector relayed this issue to second shift QA inspector Dan Reyes for tracking observation purposes.

## Field Splice 2E/3E Face C1 and C2 (Second side-Outside)

The QA inspector periodically observed QC inspectors Jessie Cayabyab and Bonafacio Daquinag performing ultrasonic testing (UT) on this date for this location. It was noted Mr. Daquinag was assisting Mr. Cayabyab and not performing the UT. The QC inspector was noted to be utilizing a zero degree transducer for lamination examination and a 70 degree transducer and wedge combination for shear wave examination. A total of 11 areas were marked for rejectable indications at various Y locations for a total approximate length of 1680mm. See digital photo in the body of this report for general information.

## Field Splice 3E/4E Face B (First side-Outside)

The QA inspector periodically observed ABF welding personnel Huang Jin Quang performing minor welding and grinding/blending of the completed weld at this location. QC inspector Tony Sherwood was noted to be present in order to monitor the progress and ensure the welding was within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D1.5-1040-A. The preheat and interpass temperature was verified by the QC and QA inspector to be greater than 65° Celsius (C) and the parameters were verified to be 128 amps. Later in the shift the QA inspector reviewed a portion of the completed weld and noted several areas which exhibited an insufficient fill condition along the sides of the weld area approximately 200 mm in length. This information was relayed to QC inspector Mike Johnson as he had replaced Mr. Sherwood for a short time and the QC inspector relayed he would review the area and relay the findings to QA. Later in the shift the QA inspector reviewed the area in question and the remedial work had been performed and the welder was completing the grinding/blending operation. The work was completed and appeared to be in general conformance with the contract documents.

## Field Splice 3E/4E Face E (Second side-Outside)

The QA inspector periodically observed ABF welding personnel Bryce Howell performing backgouging operations and the removal of the backing bar utilizing the plasma process. QC inspector Jim Cunningham was noted to be in the general vicinity in addition to Jessie Cayabyab periodically to observe the progress of the work. The work progressed throughout the QA inspector shift, was not completed and appeared to be progressing in general conformance with the contract documents.



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## Summary of Conversations:

As noted above in 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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<b>Inspected By:</b>	Foerder, Mike	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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