

**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-016057**Date Inspected:** 03-Aug-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:** SAS OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified 4W/5W and the following observations were made:

**4W/5W-E2**

The QA Inspector randomly observed the ABF welder Song Tao Hunag had previously started the induction heating blankets on the inside of OBG to ensure the minimum required preheat of 150°F was achieved prior to welding. The QA Inspector randomly verified utilizing a 150°F temperature indicating marker and noted the minimum required preheat had been achieved. The QA Inspector randomly observed the ABF welder begin performing shielded metal arc welding (SMAW) of the bottom 500mm where the semi automated bug-o track system will not reach. The QA Inspector randomly observed the ABF welder utilizing 1/8" E7018 low hydrogen electrodes with 133 Amps. The QA Inspector noted the ABF welder did perform the root/fill and cover passes for the 500mm identified above. After the SMAW had been completed the QA Inspector randomly observed the ABF welder begin utilizing the semi automated flux cored arc welding (FCAW) for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as John Pagliero set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042-B-1 The QA Inspector randomly observed the FCAW parameters were 255 Amps, 23.8 Volts and a travel speed of 250mm/min. The QA Inspector noted the weld was approximately 40% complete near the end of the QA Inspectors shift.

The QA Inspector performed a job site walk through and updated the Caltrans QA Production/NDT tracking log. The QA Inspector noted, after the information was gathered in the field, the QA Inspector transferred the

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information to the chart in the Caltrans SAS office on the job site. The QA Inspector spent the remainder of the shift performing organizational tasks of the tracking of the QA NDT on the job site. After the QA Inspector completed the QA job walk and NDT update, the QA Inspector spoke with the SE Lead QC Inspector Leonard Cross (see summary of conversation).

## Summary of Conversations:

The QA Inspector first spoke with the QC Inspector Mike Johnson regarding the QC wall charts on indicated directly on the steel. The QA Inspector asked Mr. Johnson what "INT UT OK" was intended to mean. Mr. Johnson informed the QA Inspector he was unclear what that meant and the QA Inspector should ask the person that wrote it. In addition Mr. Johnson informed the QA Inspector the wall charts were "not the holy grail" rather they were merely notes and not the final acceptance. The QA Inspector informed the QC Inspector that was incorrect, the wall charts were certainly more than just "QC notes" due to the fact the weekly welding reports were nearly 2 months behind. The QA Inspector asked the QC Inspector if the copied files in the QC office were readily accessible for the QA Inspector to review. Mr. Johnson informed the QA Inspector those files were not for the QA Inspectors to review and if a document was needed, the QA Inspector would need to request it in advance.

The QA Inspector spoke with the QC Lead Inspector Leonard Cross about the conversation identified above with Mike Johnson. Mr. Cross informed the QA Inspector the QA Inspectors did in fact have access to the files in the QC office when ever they deemed necessary to review. In addition Mr. Cross provided the QA Inspector with an QC NDT update as of 7/30/10 in an excel spread sheet format.

Later in the shift the Caltrans Structures Representative (SR) Ti Lynn informed the QA Task Lead Inspector Bill Levell of a discrepancy with the weekly Structures Material Representative (SMR) update and ABF information of status of completion of a weld joint. The SR Informed Mr. Levell the SMR update indicated the weld joint identified as 3E/4E-D had been completed. The SR went on to say information gathered by the ABF representative Chuck Kanapicki conflicts with the SMR report update. After reviewing the QA documents it was learned the wall chart at the weld joint identified 3E/4E-D had indicated the QC ultrasonic testing (UT) had been completed and accepted as of 7/13/10. After a brief discussion with Mr. Cross and Mr. Levell, Mr. Cross indicated the weld joint had not been accepted rather additional UT was performed and completed on 8/3/10. The QA Inspector noted the urgency and importance to make sure the wall charts are correct and accurate as the Caltrans QA department on site has no other means of ascertaining information on the status of NDT, due to the fact the weekly welding reports are 2 months behind.

## 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>	Bettencourt,Rick	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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