

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-014696**Date Inspected:** 08-Jun-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

<b>CWI Name:</b>	Bernard Docena, Bnifacio Daquing			<b>CWI Present:</b>	Yes	No	
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A
<b>Bridge No:</b>	34-0006			<b>Component:</b>	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-A, 3W/4W-C, 2W/3W-C and the following observations were made:

**3W/4W-C2**

Upon the arrival of the QA Inspector it was observed ABF welder was setting up the flux cored arc welding (FCAW) machine to begin the FCAW root pass. The QA Inspector performed random visual testing of the fit up and noted it appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the ABF welder Song Tao Huang had previously started the induction heating blankets 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 SE QC Inspector identified as Bernard Docena set the FCAW machine to the parameters of the approved WPS. The QA Inspector randomly observed the FCAW parameters were 238Amps 23.7Volts and a travel speed of 330mm/min. The QA Inspector randomly observed the ABF welder Song Toa Huang begin the FCAW root/fill pass. The QA Inspector noted the ABF welder did not complete the FCAW on this date.

**2W/3W-C1**

The QA Inspector randomly observed the ABF welders Jeremy Doleman and Rory Hogan performing flux cored arc welding the in 4G position at the above identified location. The QA Inspector noted ABF welders were welding the first 3 meters of the FCAW back weld in the above identified weld segment. The QA Inspector randomly observed the induction heating blankets were previously installed and turned on, maintaining the minim

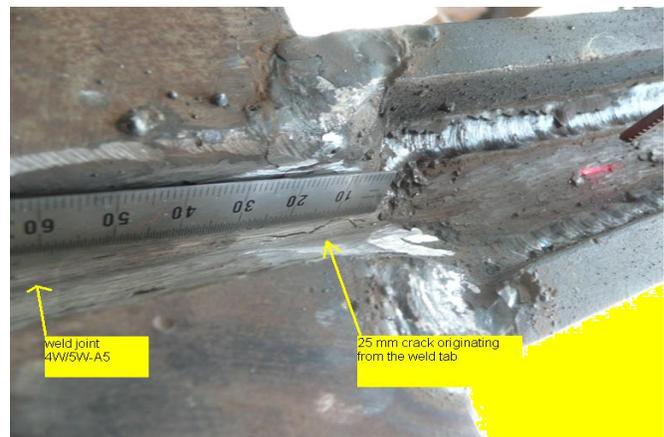
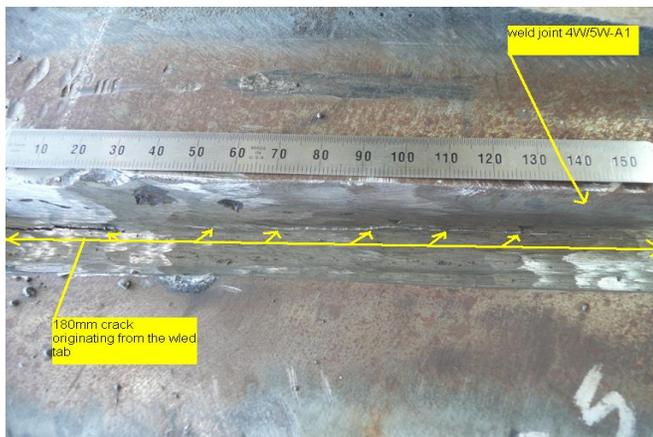
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required preheat of 150°F. The QA Inspector noted the SE QC inspector Tony Sherwood was on site monitoring and recording the in process production welding. The QA Inspector randomly observed the FCAW parameters and they were 250 Amps, 24.5 Volts and a travel speed of 186mm/min. the QA Inspector noted the FCAW parameters appeared to be in general compliance with ABF-WPS-3042B. The QA Inspector noted the FCAW fill/cover pass was in process at the end of the QA Inspectors shift.

## 4W/5W-A

The QA Inspector randomly observed the ABF welding personnel setting up the submerged arc welding equipment and induction preheating equipment to begin the SAW on the above identified weld joint. The QA Inspector randomly observed the material to be welded was approximately 150°F at the time of the QA Inspectors arrival. It was noted no SAW had been started at the time of the QA Inspectors arrival at the above identified location. Upon the arrival the QA Inspector observed two cracks on opposite ends of the weld joint in the shielded metal arc welding (SMAW) full length tack welds. The first crack observed was in the weld segment identified as A1. The QA Inspector performed measurements of the crack and noted it appeared to be 180mm in length and originating at the weld tab and propagating 180mm into the weld joint. The QA Inspector noted the crack was propagating in the SMAW full length tack weld joining the steel backing bar to the bevel face of the OBG identified as 5W. The QA Inspector noted the 180mm crack measured by the QA Inspector was only observed by visual testing (VT) and the extent of the crack was not determined with any NDT method by the QA Inspector. In addition another crack was located by the QA Inspector in the weld segment identified as A5. The QA Inspector performed measurements of the crack and noted it appeared to be 25mm in length and originating at the weld tab and propagating 25mm into the weld joint. The QA Inspector noted the crack was propagating in the SMAW full length tack weld joining the steel backing bar to the bevel face of the OBG identified as 5W. The QA Inspector noted the 25mm crack measured by the QA Inspector was only observed by VT only and the extent of the crack was not determined with any NDT method by the QA Inspector. The QA Inspector informed the Smith Emery (SE) Quality Control Inspector Steve McConnell of the cracks located by the QA Inspector. In addition the QA Inspector informed the ABF Welding Superintendent Dan Ieraci and the QA Inspector Mike Foerder of the issue identified above. At 1200 the QA Inspector turned over with the QA Inspector Danny Reyes and Mr. Reyes observed the repairs of the cracked areas for the remainder of the shift.



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### Summary of Conversations:

At 1200 the QA Inspector Mike Foerder informed the QA Inspector Rick Bettencourt ABF had a verbal approval per Senior Task Lead Patrick Lowry to excavate the cracked areas in weld segment 4W/5W-A1/A5.

### 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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