

**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-014482**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

<b>CWI Name:</b>	Bernard Docena, Bnifacio Daquina			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<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 as 2W/3W-C, 1W/2W-D/S, 5E/6E-A and the following observations were made:

**5E/6E-A**

Upon the arrival of the QA Inspector, it was observed the above identified complete joint penetration groove weld had been previously completed. It was noted no grinding appeared to have been performed on the weld reinforcement. The QA Inspector noted, it appeared some weld repairs had been made previously to correct some under filled areas of the weld. It was noted no work was performed on the above identified weld joint on the QA Inspectors shift. The QA Inspector noted American Bridge/Fluor (ABF) appeared to be setting up to perform submerged arc welding (SAW) welder qualification tests in the welding connex directly over the 5E/6E-A weld joint.

**1W/2W-D/S**

Upon the arrival of the QA Inspector, it was observed and noted all 18 of the longitudinal stiffener plates had been welded to completion. The QA Inspector randomly observed the weld reinforcement had been removed by grinding flush with the base material. The QA Inspector randomly observed the ABF welder Chun Fai Tsui performing grinding tasks with a burr bit grinder on the weld access holes. The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector Jesse Cayabyab performing magnetic particle testing (MT) of the welds which were totally complete and did not require additional grinding. The QA Inspector noted no relevant indications appeared to be present at the time of the testing. The QA Inspector noted the ABF welder

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appeared to be performing grinding tasks for the remainder of the QA Inspectors shift.

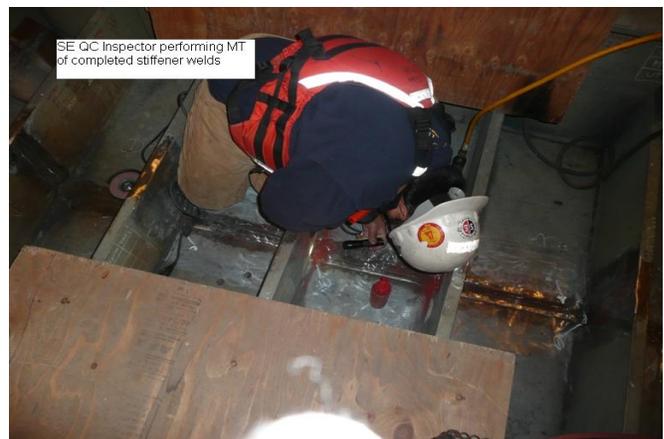
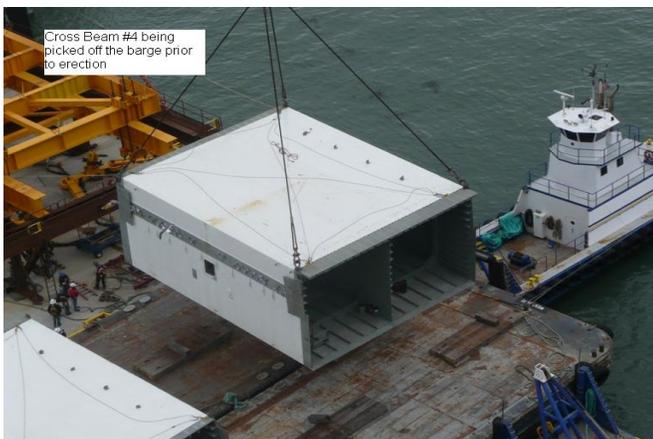
The QA Inspector randomly performed visual testing (VT) of the weld access holes or “rat holes” of the previously completed weld joints. The QA Inspector randomly observed the radius of the weld access holes appeared to have sharp edges and a rough surface. The QA Inspector asked the SE QC Inspector Jesse Cayabyab if additional grinding will be performed at the weld access holes. The QC Inspector informed the QA Inspector ABF has not completed all of the grinding tasks at the weld access holes. The QC Inspector informed the QA Inspector additional grinding will need to be completed prior to acceptance of the weld access holes.

## 2W/3W-C

Upon the arrival of the QA Inspector it was observed the above identified weld joint appeared to be approximately 75% complete. The QA Inspector randomly observed the ABF welder was setting up the flux cored arc welding (FCAW) machine to complete the top 300mm of the weld joint where the side plate meets the corner plate. 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 252Amps 23.7Volts and a travel speed of 290mm/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 completed the FCAW cover pass prior to the first break. The QA Inspector noted no additional welding was completed on the QA Inspectors shift. The QA Inspector noted the production welding was not completed on this date. It was noted the ABF erection personnel began removing the splice plates and for the bottom 2400mm of the weld joint.

## Cross Beam #4

The QA Inspector randomly observed the ABF erection personnel pick and begin erection of the 4th cross beam between the east and west bound bridge segments. The QA Inspector noted the bolting began as soon as the cross beam was fit up in place.



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**Summary of Conversations:**

As noted above.

**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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