

**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-012991**Date Inspected:** 12-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

<b>CWI Name:</b>	Bnifacio Daquinag, Mike Johnson	<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 1W/2W-D	

**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 1W/2W-D and the following observations were made:

**1W/2W-A**

Upon the arrival of the QA Inspector it was randomly observed the production welding at the above identified location had been previously completed. The QA Inspector noted the enclosed welding connex had been moved to the second field splice identified as 2W/3W-A, no welding was performed at 2W/3W-A on this date. The QA Inspector noted the weld reinforcement of 1W/2W-A1-A5 had been ground flush upon the arrival of the QA Inspector. The QA Inspector observed the magnetic particle testing (MT) had been previously performed by the Smith Emery (SE) Quality Control (QC) Inspectors. The QA Inspector noted the visual testing (VT) or the ultrasonic testing (UT) had yet been completed by today's date. It was noted, due to inherent weather conditions and rain no UT or VT was completed at the complete joint penetration (CJP) groove weld on this date.

**1W/2W-D**

Upon the arrival of the QA Inspector at the above identified location it was observed that a shielded metal arc welding (SMAW) root pass had been previously completed. The QA Inspector randomly observed several locations directly under the longitudinal stiffeners where the CJP groove weld had been welded out root/fill/cover. The QA Inspector noted the areas that were welded out to completion were approximately 100mm on either side of the longitudinal stiffeners a total weld length of 200mm. The QA Inspector noted it appeared that sections D5 and D6 had been welded to completion utilizing the submerged arc welding (SAW) process. The QA Inspector

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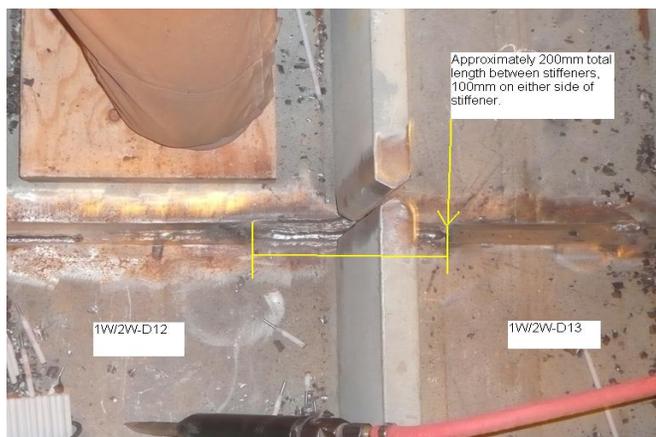
randomly observed the SE QC Inspector Bnifacio Daquinag was present at the above identified location monitoring and recording the in process production welding.

D7/D8

The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder identified as Chun Fai Tsui was performing SMAW between the locations identified above. It was noted the same process of welding approximately 200mm under the stiffeners and 100mm on either side is how the production welding was being sequenced. The QA Inspector noted the SMAW root pass had been previously completed to the QA Inspectors arrival. The QA Inspector randomly observed the ABF welder performing the SMAW fill/cover passes for the duration of the QA Inspectors shift. The QA Inspector noted the ABF welder was utilizing 1/8" E7018 H4R low hydrogen electrodes with 147 Amps. The QA Inspector noted the CJP groove as well as surrounding base material was being maintained above 150°F. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-1040-C. The QA Inspector randomly observed the ABF welder complete the area identified above. After the area was completed the QA Inspector randomly observed the ABF welder move and begin performing SMAW fill passes in D7. It was observed the ABF welder was performing the SMAW fill passes in D7 for the remainder of the QA Inspectors shift.

D12/D13

The QA Inspector randomly observed the ABF welder identified as James Zhen was performing SMAW between the locations identified above. It was noted the same process of welding approximately 200mm under the stiffeners and 100mm on either side is how the production welding was being sequenced. The QA Inspector noted the SMAW root pass had been previously completed to the QA Inspectors arrival. The QA Inspector randomly observed the ABF welder performing the SMAW fill/cover passes for the duration of the QA Inspectors shift. The QA Inspector noted the ABF welder was utilizing 1/8" E7018 H4R low hydrogen electrodes with 145 Amps. The QA Inspector noted the CJP groove as well as surrounding base material was being maintained above 150°F. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-1040-C. The QA Inspector randomly observed the ABF welder complete the area identified above. After the area was completed the QA Inspector randomly observed the ABF welder move and begin performing the same SMAW fill passes between D11/D12. It was observed the ABF welder was performing the SMAW fill passes in D11/D12 for the remainder of the QA Inspectors shift.



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### Summary of Conversations:

The SE QC Inspector Bnifacio Daquinag informed the QA Inspector the ABF welders identified above will continue to perform the SMAW fill/cover passes until the CJP groove weld identified as 1W/2W-D1-D18 are completed. The QC Inspector went on to inform the QA Inspector; no additional welders are available to perform SAW between the stiffeners. The QC Inspector informed the QA Inspector the two ABF welders identified as James Zhen and Chun Fai Tsui are not qualified to perform SAW so they will continue to perform SMAW until qualified SAW welders are available to weld at 1W/2W-D1-D18.

### 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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