

**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-012647**Date Inspected:** 15-Mar-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, Jesse Cayabayab			<b>CWI Presentation:</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 1E/2E-B,F,C 2E/3E-E		

**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 1E/2E-B,C, F and 2E/3E-E the following observations were made:

**1E/2E-B**

Upon the arrival of the QA Inspector at the above identified location, it was observed the complete joint penetration groove weld (CJP) was near completion. The QA Inspector noted the weld joint was started on Saturday 3-13-10. The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder Mitch Sittinger performing plasma arc gouging at the intersection of the "A" and "B" CJP groove welds. The QA Inspector randomly observed the ABF welder remove the weld material at the end of the "A" plate to create a groove to tie in the "B" plate CJP groove weld. After the plasma arc gouging had been completed, the QA Inspector randomly observed ABF welder perform grinding tasks. The QA Inspector randomly observed the ABF welder utilize a burr bit grinder to create a weldable profile. The QA Inspector randomly observed the ABF welder identified as Song Toa Huang. The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector Steve McConnell on site monitoring and observing the in process welding. The QA Inspector randomly observed the FCAW parameters and they were 230 Amps, 22.5 Volts and a travel speed of 180mm/min. The QA Inspector randomly observed the FCAW parameters to be in general compliance with the approved WPS identified as ABF-WPS-D1.5-3040B-3. The QA Inspector randomly observed the above identified weld joint was completed from the external side of the transverse field splice. The QA Inspector noted no back gouging or any attempt to remove the steel backing from the back side of the weld joint was performed. The QA Inspector randomly observed and noted the above identified ABF welder spent the remainder of the shift performing grinding tasks in

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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the process of grinding the external surface of the weld reinforcement flush.

1E/2E-F

Upon the arrival of the QA Inspector at the above identified location, it was observed the complete joint penetration groove weld (CJP) was near completion. The QA Inspector noted the weld joint was started on Saturday 3-13-10. The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder Mitch Sittinger performing plasma arc gouging at the intersection of the "A" and "B" CJP groove welds. The QA Inspector randomly observed the ABF welder remove the weld material at the end of the "A" plate to create a groove to tie in the "B" plate CJP groove weld. After the plasma arc gouging had been completed, the QA Inspector randomly observed ABF welder perform grinding tasks. The QA Inspector randomly observed the ABF welder utilize a burr bit grinder to create a weldable profile. The QA Inspector randomly observed the ABF welder identified as Huang Jin Quan. The QA Inspector randomly observed the SE QC Inspector Steve McConnell on site monitoring and observing the in process welding. The QA Inspector randomly observed the FCAW parameters and they were 240 Amps, 22 Volts and a travel speed of 165mm/min. The QA Inspector randomly observed the FCAW parameters to be in general compliance with the approved WPS identified as ABF-WPS-D1.5-3040B-3. The QA Inspector randomly observed the above identified weld joint was completed from the external side of the transverse field splice. The QA Inspector noted no back gouging or any attempt to remove the steel backing from the back side of the weld joint was performed. The QA Inspector randomly observed and noted the above identified ABF welder spent the remainder of the shift performing grinding tasks in the process of grinding the external surface of the weld reinforcement flush.

1E/2E-C-2

The QA Inspector randomly observed the ABF welders 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 observed the ABF welder to be utilizing a semi automated FCAW track system for welding the above identified weld joint. The QA Inspector randomly observed the SE QC Inspector identified as Bernard Docena set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042A-1. The QA Inspector randomly observed the FCAW parameters were 288 Amps, 24.7 Volts and a travel speed of 250mm/min. The QA Inspector randomly observed the ABF welder Jeremy Doleman continued the FCAW fill pass, once the semi automated track system reached a certain point the ABF welder Rory Hogan would observe the welding arc for the remainder of the weld. The QA Inspector noted the above identified FCAW parameters did not vary from those noted above. The QA Inspector noted the fill and cover passes were completed on this date from the internal side of the OBG.

2E/3E-E

The QA Inspector noted the Smith Emery (SE) Quality Control (QC) Inspector Jesse Cayabayab on site to monitor and record the in process fit up. The QA Inspector randomly observed the QC Inspector performing dimensional measurements of the fit up as the ABF welding personnel performed the fit up tasks. The QA Inspector observed the ABF welder Rick Clayborn preheat and perform shielded metal arc welding (SMAW) of a fitting aid. The QA Inspector noted Mr. Clayborn was utilizing 1/8" E7018 low hydrogen electrodes with 151 Amps. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-1200A. The QA Inspector observed Mr. Clayborn weld and attach the fitting aid to the side plate identified above. The QA Inspector observed after the temporary attachment was installed, Mr. Clayborn drove the pin or wedge through the

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## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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fitting aid to adjust the off set of the two members. The QA Inspector randomly observed the same process was repeated through the full length of the above identified weld joint. The QA Inspector randomly observed the SE QC Inspector Bnifacio Daquinag was on site to monitor the in process welding and fit up.



### Summary of Conversations:

see 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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**Inspected By:** Bettencourt,Rick

Quality Assurance Inspector

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**Reviewed By:** Levell,Bill

QA Reviewer