DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-016811
Date Inspected: 13-Sep-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: See below

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ 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 as hole restoration and 6E/7E-A the following observations were made:

Deck Plate Access Hole 1E North

The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder Fred Kaddu setting up to perform the shielded metal arc welding (SMAW) back weld. The QA Inspector previously performed random visual testing and dimensional verification of the bevel angle and root opening of the above identified fit up. The QA Inspector randomly observed the fit up appeared to be in general compliance with ABF-WPS-D1.5-1030. The QA Inspector randomly observed and noted the ABF welder did not perform any welding on the QA Inspectors shift.

2E-pp15-E3-1

The QA Inspector Randomly observed the American Bridge/Fluor (ABF) welder identified as Wai Kitlai begin setting up to perform the SMAW root pass. The QA Inspector randomly observed the ABF welder perform some base metal grinding of the top deck plate insert prior to commencing the SMAW root pass. The QA Inspector randomly verified the bevel angles and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the ABF welder had previously installed ceramic backing to the underside of the top deck plate and held in place with adhesive. The QA Inspector randomly observed the ABF welder had set the circular deck insert onto the ceramic backing and held in place utilizing magnets. The QA Inspector performed a random visual inspection of the fit up and noted the root opening, bevel angle and planar alignment of the complete joint penetration (CJP) groove weld appeared to meet the general requirements of the

contract documents.

The QA Inspector randomly observed the ABF welder preheat the area to approximately 100°F prior to performing any SMAW. After the minimum required preheat had been achieved, the QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector noted the SE QC Inspector Steve McConnell was on site to monitor and record the in process production welding at the above identified location. The QA Inspector randomly observed the SMAW parameters to be approximately 130 Amps with 5/32" E7018 low hydrogen electrodes. The QA Inspector randomly observed the in process welding parameters and dimensional tolerances appeared to be in general compliance with the approved welding procedure identified as ABF-WPS-D1.5-1050-A. The QA Inspector noted the ABF welder did not complete the SMAW on the QA Inspectors shift.

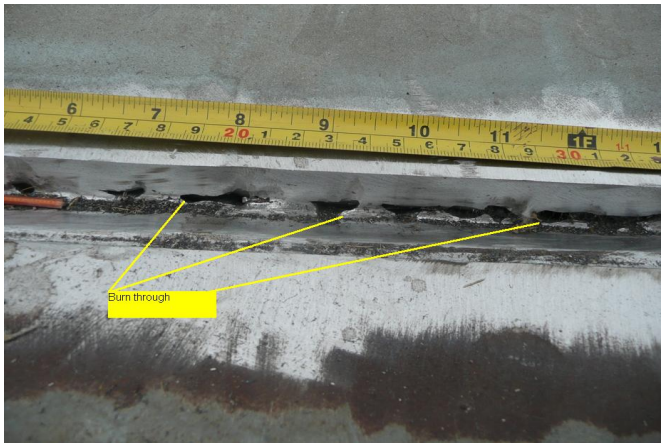
2E-pp15-E4-1
The QA Inspector randomly observed the ABF welder Yao Xin Liang begin performing SMAW of the above identified deck insert hole. The QA Inspector noted the Same QC Inspector and the same welding process was performed as described above at 2E-pp15-E3-1. The QA Inspector noted 2E-pp15-E4-1 deck plate was not completed on this date.

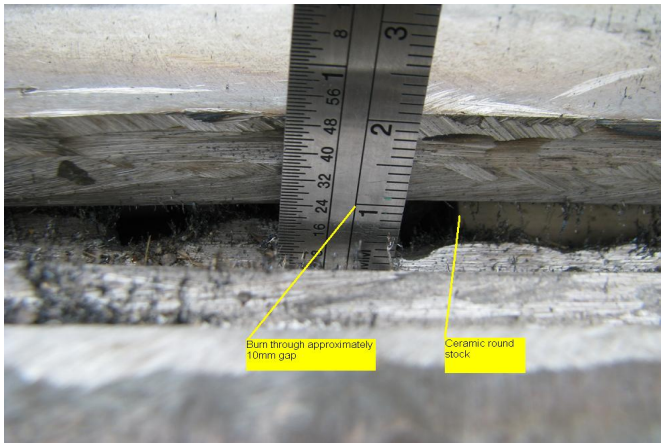
1E-pp8.5-E3-1
The QA Inspector randomly observed the ABF welder identified as Jin Pei Wang performing the SMAW back weld for the above identified weld joint. The QA Inspector noted the base metal and the weld joint were preheated to approximately 150°F and back welding was commenced. The QA Inspector randomly observed the ABF welder to be utilizing 1/8" E7208 low hydrogen electrodes with 130 Amps. The QA Inspector noted the SMAW back weld was approximately 50% completed on the QA Inspector. The QA Inspector randomly observed the weld was not completed on the QA Inspectors shift.

6E/7E-A1
Upon the arrival of the QA Inspector at the above identified location, it was observed the top deck transverse weld splice had been previously completed except for approximately 1000mm. The QA Inspector noted on the previous day shift the ABF welding personnel had a machine malfunction and a section of the weld blew through the steel backing bar. The QA Inspector randomly observed the area of weld joint between y=2000mm-3025mm had blown through the steel backing bar at the edge of the backing and created a gap. The QA Inspector performed random dimensional measurements of the uneven gaps and noted the gaps appeared to be 3mm-9mm wide at various locations. The QA Inspector randomly observed the ABF Welding Superintendent Dan Ieraci was on site and attempting to install ceramic backing (see summary of conversation). The QA Inspector randomly observed Mr. Ieraci install the ceramic round bar stock adjacent to the steel backing under the top deck plate. The QA Inspector noted a weld dam was created to allow the gap created by the blow through to be restored and welded from the top side of the weld joint. The QA Inspector randomly observed Mr. Ieraci perform additional grinding create a weldable profile for the ABF welder. The QA Inspector noted no welding was performed on the QA Inspectors shift.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)





Summary of Conversations:

ABF Welding Superintendent Dan Ieraci informed the QA Inspector he will install ceramic round bar stock with adhesive to the bottom side of the steel backing bar at 6E/7E-A1 between y=2000mm-3025mm. Mr. Ieraci informed the QA Inspector he would install the ceramic backing to in an attempt to create a weld dam to begin the restoration of the weld joint. Mr. Ieraci went on to inform the QA Inspector once the ceramic is in place the ABF welder will deposit a SMAW pass from the top side of the weld joint and seal off the gap which was created by the blow through. Mr. Ieraci went on to inform the QA Inspector once the seal or root pass is established, the weld joint will be welded with SMAW to create subsequent root/fill pass then completed with SAW.

The ABF Welding Quality Control Manager (WQCM) Jim Bowers informed the QA Inspector an internal non conformance report was written in regards to area of the weld joint that is blown through. Mr. Bowers went on to inform the QA Inspector ABF is currently attempting to weld and restore the top side of the weld joint only. Mr. Bowers elaborated and said the bottom side of the weld joint at the steel backing will be fixed at a later date.

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.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer