

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-012770**Date Inspected:** 23-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Bernard Docena, Jesse Cayabayab			CWI Presentation:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006			Component:	SAS OBG 2E/3E-A 3E/4E-A 1W/2W		

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 2E/3E-A,F, 3E/4E-A, 1W/2W and the following observations were made:

2E/3E-A

Upon the arrival of the QA Inspector, it was observed 26 total ultrasonic testing (UT) rejections had been located and indicated by the Smith Emery (SE) Quality Control (QC) Inspectors. The QA Inspector noted approximately 14 had been repaired by welding. The QA Inspector noted to SE QC was performed on the QA Inspectors shift. The QA Inspector randomly observed and noted the rejected areas of weld had been indicated with a distinguishing marking directly on the weld. The QA Inspector randomly observed the American Bridge/Fluor (ABF) welder identified as Mitch Sittinger was setting up to begin excavating the previously rejected areas of weld. The QA Inspector randomly observed the ABF welder excavate and repair 1 total rejected area on the QA Inspectors shift (listed below).

A1

The QA Inspector randomly observed the ABF welder begin excavating the UT rejection in A1. The QA Inspector randomly observed the After the excavation was complete the QA Inspector randomly observed the SE QC Inspector Tom Pasqualone perform magnetic particle testing of the excavation prior to the repair welding. The QA Inspector noted no relevant indications were located at the time of the testing. The QA Inspector randomly observed the QC Inspector perform the MT and the QA Inspector concurred, no relevant indications appeared to be present at the time of the testing. The QA Inspector noted the excavation was ground to a weldable profile prior

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

to the repair welding. The QA Inspector performed dimensional measurements of the excavation and noted it appeared to be 330mm x 30mm x 14mm. The QA Inspector observed an ABF apprentice welder preheat the isolated area to be welded to the minimum required preheat of 150°F. After the minimum required preheat was achieved, the QA Inspector randomly observed the ABF welder begin the weld repair utilizing the shielded metal arc welding (SMAW) process. The QA Inspector randomly observed the ABF welder utilizing 1/8" E7018 low hydrogen electrodes with 125 Amps. The QA Inspector noted the SMAW parameters and minimum required preheat appeared to be in general compliance with ABF-WPS-D1.5-1000-repair. After the weld repair was completed the QA Inspector randomly observed the QC Inspector perform visual testing of the completed repair. The QA Inspector was informed the weld repair was acceptable by the QC Inspector. The QA Inspector performed a random visual inspection and noted it appeared to be in general compliance with the contract requirements. After the weld repair was accepted visually, the QA Inspector noted the weld reinforcement was ground flush with the adjacent base material. The QA Inspector noted the ABF welder began excavating the next UT reject area in A1. No other SMAW repairs were made on the QA Inspectors shift.

2E/3E-F

The QA Inspector randomly observed the ABF welder identified as Song Tao Huang performing flux cored arc welding (FCAW) of the back weld at the above identified location. The QA Inspector noted the back weld was started on the previous day shift. Upon the arrival of the QA Inspector, it was observed the back weld appeared to be approximately 80% complete. The QA Inspector randomly observed the ABF welder performing the FCAW fill/cover passes. The QA Inspector observed the SE QC Inspector Jim Cunningham was on site to monitor and record the in process welding. The QA Inspector randomly observed and noted the FCAW parameters and they were 217 Amps, 22.2 Volts and a travel speed of 165mm/min. The QA Inspector noted the FCAW parameters appeared to be in general compliance with ABF-WPS-D1.5-3040B-3. After the weld was completed, the QC Inspector performed visual testing of the cover passes. After the VT the QC Inspector informed the QA Inspector the cover pass would require additional grinding. The QA Inspector noted the ABF welder performed grinding tasks for the remainder of the shift.

1W/2W

Upon the arrival of the QA Inspector in the AM it was observed the orthotropic box girder identified as 2W was set and slid down the trestle. The QA Inspector randomly observed the ABF erecting personnel were performing the bolting sequence of the splice plates at the longitudinal full height diaphragms and the "U" Ribs. The QA Inspector randomly observed and noted ABF was utilizing the permanent bolts rather than temporary bolts. The QA Inspector was informed by the ABF Erection foreman Dave Meche, due to the welding sequence and where the welding crew is currently at, ABF has time to install the permanent metric bolts.

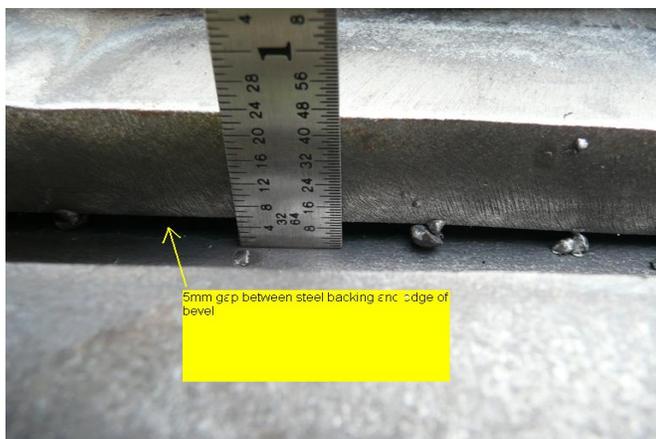
3E/4E-A

The QA Inspector randomly observed the ABF welders Jordan Hazelaar and James Zhen begin performing SMAW tack welding of the above identified complete joint penetration (CJP) weld joint. The QA Inspector randomly observed and ABF apprentice welder performing preheating tasks utilizing a rose bud torch, heating the base material and steel backing to the minimum required preheat of 150°F. The QA Inspector randomly observed gaps between the steel backing and the edge of the bevel exceeding 2mm (see summary of conversations). The QA Inspector randomly observed the ABF welders performing the SMAW tack welding through out the duration of the shift. The QA Inspector randomly observed and noted the CJP groove weld joint identified above did not appear to meet the general requirements of joint fit up or mismatch in AWS D1.5-02 at the time of the tack

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

welding. The QA Inspector noted the weld joint was only tacked on one side, so additional fitting tasks could be performed (see summary of conversation).



Summary of Conversations:

The QA Inspector was informed by the ABF Engineer John Callaghan no additional fitting tasks could be performed, thus why ABF is depositing the SMAW tack weld or seal pass on the edge of the bevel and the steel backing. The SE QC Inspector Jesus Cayabayab informed the QA Inspector SE is keeping track and mapping the areas of the CJP groove weld, where the gap between the steel backing and the edge of the bevel exceed 2mm for UT purposes. The QC Inspector informed the QA Inspector he would provide the QA Inspector with the map of the areas when it is completed.

The QC Inspector Jesus Cayabayab informed the QA Inspector the fit up of the above identified weld joint had not yet been accepted by SE QC. The QC Inspector went on to inform the QA Inspector, additional fitting tasks would need to be performed.

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
