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: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-016542
Date Inspected: 26-Aug-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	**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

CWI Present: ☑ Yes ☐ No

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 stiffeners, 5E/6E hole restoration, and the following observations were made:

3E/4E-A-LS-4/5

Upon the arrival of the QA Inspector at the above identified location, the QA Inspector randomly observed the ABF welder Hua Qiang Hwang preparing to continue the SMAW weld joint restoration. The QA Inspector randomly observed the ABF welder preheat the material to 200°F utilizing a rosebud torch. The QA Inspector noted the SE QC Inspector John Pagliero was on site monitoring the in process preheats and welding parameters of approved welding procedure identified as ABF-WPS-D1.5-1012-3. The QA Inspector performed a random visual inspection of the above identified stiffener plates and noted an 8mm-11mm gap was still present at the time of the QA Inspectors arrival. The QA Inspector noted additional welding and grinding would be required prior to production welding. The QA Inspector randomly observed the ABF welder remove the E9018 1/8” electrodes from the rod container at 0730. The QA Inspector noted the maximum exposure time for the above identified electrodes is on hour. The QA Inspector randomly observed the ABF welder continue the SMAW butter passes on the above identified weld joint. The QA Inspector noted the SMAW parameters were 130 amps and appeared to be in general compliance with the above identified WPS. The QA Inspector noted the ABF welder continued performing the SMAW butter passes from the remainder of the QA Inspectors shit.

5E/6E-D1/D2

The QA Inspector randomly observed the ABF welder Rory Hogan and Jeremy Doleman had previously started

the induction heating blankets on the outside of OBG next to the weld joint 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 the semi automated flux cored arc welding (FCAW) for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as Jim Cunningham set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042A The QA Inspector randomly observed the FCAW parameters were 236 Amps, 24.1 Volts and a travel speed of 250mm/min. The QA Inspector randomly observed the ABF welder identified above continue the FCAW fill/cover passes on approximately 2000mm of weld segment D2 of the back weld in the am. The QA Inspector noted the weld segment D1 was completed on this date.

Lifting lug hole restoration

1AE1-The QA Inspector noted the above identified weld joint was completed form the top side of the deck or side "A" upon the arrival of the QA Inspector. The QA Inspector randomly observed the ABF welder James Zhen performed additional pick up welding on a couple of low areas of the weld. After the welder had completed the additional welding indicated by the SE QC Inspector Mike Johnson the welder moved on to the next deck hole to be welded. The QA Inspector noted the weld was not ground flush on this date.

1AE4-The QA Inspector Randomly observed the American Bridge/Fluor (ABF) welder identified as James Zhen begin setting up to perform the shielded metal arc welding (SMAW). 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 observed the ABF welder grind the precut bevels from 30° to 45°, 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 Smith Emery (SE) Quality Control (QC) Inspector Mike Johnson 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.

In addition the QA Inspector randomly observed the SE QC Inspectors John Pagliero and Steve McConnell laying out and punch marking the deck lift lug holes for UT after welding is completed. THe QA Inspector noted the QC Inspectors layed out the holes from the inside diameter of the hole and puchmarked directly on the steel. After the welding is completed and the reinforcement is ground flush, the SE QC Inspectors will be able to determine where

the approximate center of the root was.

Summary of Conversations:

The ABF Engineer Identified as John Callaghan informed the QA Inspector the recently approved ABF welders identified as Wai Kitlai and Yao Xin Liang will be welding the SMAW root passes in the deck inserts. Mr. Callaghan went on to inform the QA Inspector the ABF welder James Zhen will perform the FCAW fill/cover passes once the minimum required preheat of 200°F was achieved and held with the Pro Heat induction heating machines.

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