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-022405
Date Inspected: 01-Apr-2011

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 7W-pp53-W4-3, 7E-pp55-E4-1&3 W2 Barrier Line and South Shaft Corner Closure splice plate tack welding the following observations were made:

7W-pp53-W4-3

The QA Inspector randomly observed the ABF welder identified as Mike Jimenez fitting up the lifting lug deck insert identified above. The QA Inspector noted the direction of rolling was stamped with a low stress stamp in the center of the insert plate, so no grinding or welding would mask or deface the identifying marking. The QA Inspector randomly observed the bevel angle to be 45°. The QA Inspector noted the surface of the bevel appeared to be a machined surface with bright shinny metal. The QA Inspector noted the ABF welder was utilizing a prefabricated round copper backing plate held in place with magnets. The QA Inspector noted the fit up was completed on the QA Inspectors shift and appeared to be in general compliance with the contract documents. The QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector randomly observed the SMAW parameters were 5/32” E7018 low hydrogen electrodes with 225 Amps for the root pass. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. After the SMAW root pass was completed the QA Inspector randomly observed the welder switch to 3/16” E7018 low hydrogen electrodes with 260Amps and used through the completion of the weld. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on the QA Inspectors shift. It was noted the ABF welder did not remove the weld reinforcement of the QA Inspectors shift.

7E-pp55-E4-1&3
The QA Inspector randomly observed the ABF welder Jason Collins performing carbon arc gouging and back grinding of the above identified weld joints. The QA Inspector randomly observed the ABF welder grind the back gouged weld joints to bright metal. The QA Inspector randomly observed the back gouged weld joints and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Fred Vonhoff perform magnetic particle testing of the back gouged weld joint and noted no relevant indications were present at the time of the testing. The QA Inspector randomly observed the ABF welder continue welding the in process lift lug hole restoration of the lifting lug hole identified as #1. The QA Inspector noted the weld joint was approximately 50% complete at the time of the SMAW 4G back weld. The QA Inspector randomly observed the ABF welder continue the SMAW cover pass. The QA Inspector noted the ABF welder completed #1 and moved over to #3. The QA Inspector randomly observed the SMAW parameters were 1/8" E7018 low hydrogen electrodes with 119 Amps. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on this date. The QA Inspector noted the weld reinforcement was ground flush on the QA Inspectors shift. The QA Inspector observed the grinding did appear to comply with the contract requirements for the lifting lug hole identified as #1 & #3.

W2 Barrier Line
Barrier segments identified as W2-SB1G, SB1, SB6, were receiving shielded metal arc welding (SMAW) seal welds between base plates in the bottom of the barrier segments. The QA Inspector reviewed and the contractors approved drawing identified as ABF FW261-02C. The QA Inspector noted the weld locations and details were identified on the above identified drawing. The QA Inspector noted the barrier rail segments were turned upright to allow the ABF welder Rich Garcia to perform the SMAW seal weld on the top the base plates. The QA Inspector randomly observed the SE QC Inspector Steve McConnell was present monitoring and recording the in process welding parameters. The QA Inspector randomly observed the ABF welder to be utilizing 1/8" E7018 low hydrogen electrodes with 100 Amps. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-1180-seal. The QA Inspector randomly observed and noted an ABF apprentice helper was performing grinding tasks and removing the weld reinforcement flush with the base material. The QA Inspector randomly observed the completed welds on the bottoms of the barrier rails prior to the barrier rails being flipped over. The QA Inspector noted the welds were ground flush with the base material prior to being flipped over. The QA Inspector randomly observed the SE QC Inspector Steve McConnell had accepted the welds visually. The QA Inspector noted the welds did appear to be in general compliance with the contract requirements.

South Shaft Corner Closure splice plate
Tower Splice plate tack welding shaft was being performed by the ABF welder Salvador Sandoval. The QA Inspector randomly observed the corner closure splice plate had been previously fit up and held in place utilizing temporary fitting aids or clips. The QA Inspector noted the SE QC Inspector Steve Jensen was on site to monitor the in process welding and preheating of the isolated areas to be tack welded. The QA Inspector observed each plate received six tack welds one at each corner and one near the middle of the plate. The QA Inspector noted the ABF welder was utilizing a wiburner torch to preheat the isolated areas to 350ºF prior to performing the SMAW tack weld. The QA Inspector randomly observed the SE QC Inspector utilizing a temperature indicating gun to determine the minimum required preheat had been achieved. The QA Inspector randomly observed the ABF welder identified above performing the flux cored arc welding (FCAW-s) Lincoln NR232 electrode. The QA Inspector randomly observed each location tack welded was preheated with isolated heat to the minimum required

temperature. The QA Inspector noted the welding and preheat appeared to be in general compliance with WPS-D1. 5-F2200-3.

Summary of Conversations:

no pertinent conversation noted.

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 Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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