

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 Rte: 80 PM: 13.2/13.9
File #: 1x.28

WELDING INSPECTION REPORT

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

Report No: WIR-000988
Date Inspected: 06-Dec-2007

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

OSM Arrival Time: 615
OSM Departure Time: 1530
Location: Benica, CA

CWI Name:	William Norris	CWI Present:	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: Procedure Qualification Record (PQR) test

Summary of Items Observed:

The Quality Assurance (QA) Inspector arrived at the Ironworkers Apprenticeship Training Facility and met with Smith-Emery Company Quality Control (QC) Inspector William Norris to observe QC functions during the welding of the Procedure Qualification Record (PQR) test plates listed below.

ABF-PQR-023-2.

1. The QA Inspector periodically observed American Bridge Floor (ABF) welding personnel Rick Clayborn and Daniel Gordon perform base material preheating prior to starting welding per the Flux Cored Arc Welding (FCAW) process to make Complete Joint Penetration (CJP) groove weld of the PQR test plate identified as ABF-PQR-023-2. The welding was being performed using Electrode Hobart Tri-Mark TM-910 E71T-1M, 1.6 millimeter diameter with 90% Argon / 10% Carbon Dioxide shielding gas. The welding was being conducted using track guided "Bug-O-System self propel wire feeder" in the 4G vertical position.

a) Prior to the start of welding the QA Inspector observed QC Inspector William Norris verify base material preheating temperature, electrical welding parameters and the travel speed to be approximately 107 degrees Celsius, 239 amperes, 23 volts and 147 millimeters/minute travel speed for the root weld pass. QC Inspector notified the QA Inspector the welding of the test plate will be done using variables to produce the lower calculated welding heat input.

b) During welding QA Inspector observed ABF welding personnel Rick Clayborn performing air carbon arc cutting (gouging) to remove filler metal to open up groove to accommodate subsequent weld passes. Cutting was

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performed prior to apply the weld pass number 4 and 11 at full length of test plate.

c) During welding QA Inspector periodically observed the QC Inspector William Norris verifying and documenting base material temperature, amperage, voltage and the travel speed as well as the cutting prior to subsequent welding pass. The welding operation was completed on test plate on this date.

d) After welding was completed PQR test plate weld was visually inspected by the QC Inspector William Norris. William Norris notified QA Inspector the weld profile was visually acceptable. The QA Inspector observed the welding and visual verification appeared to be in accordance with the figure 3.3 of the AWS D1.5-2002 and general compliance with the project specifications. QC Inspector William Norris informed the QA Inspector that a final inspection will be conducted on the test plate weld on a later date after the weld was ground flush and the weld run off tabs were removed.

ABF-PQR-003-2-B.

2. Prior to starting welding PQR test plate QC Inspector William Norris informed the QA Inspector he had accepted the fit up of the weld joint. The QA Inspector verified the weld joint to be a standard butt joint B-U2a-GF intended to be a CJP groove weld. The QA Inspector performed a random visual verification of the fit up of the plates and observed the joint to be in accordance with figure 2.4 of the AWS D1.5, 2002.

a) QA Inspector periodically observed ABF welding personnel Rick Clayborn and Daniel Gordon perform base material preheating prior to starting welding per the Flux Cored Arc Welding Self Shielded (FCAW-S) process to make Complete Joint Penetration (CJP) groove weld of the PQR test plate identified as ABF-PQR-003-2-B (Retest). The welding was being performed using Lincoln Innershield NR-232, E71T-8, 1.8 millimeter diameter. The welding was being conducted using track guided "Bug-O-System self propel wire feeder" in the 4G (overhead) position.

b) Prior to the start of welding QA Inspector observed the QC Inspector William Norris verify base material preheating temperature, electrical welding parameters and the travel speed to be approximately 108 degrees Celsius, 240 amperes, 20.7 volts and 106 millimeters/minute travel speed for the root weld pass. QC Inspector notified the QA Inspector the welding of the test plate will be done using variables to produce the low welding calculated heat input.

c) During welding QA Inspector observed the QC Inspector William Norris verifying and documenting base material temperature, amperage, voltage and the travel speed of each welding pass. The welding operation was not completed on test plate on this date.

The QA Inspector observed the welding performed at this location appeared to be in general compliance with the project plan and specifications.

Summary of Conversations:

As noted in the body of the report above. QC Inspector William Norris informed the QA Inspector he intended to monitor and record the electrical welding parameters (amperage, voltage and travel speed) and document the placement of each welding pass in the groove joint.

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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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Medina,Ricardo	Quality Assurance Inspector
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Reviewed By:	Mertz,Robert	QA Reviewer
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