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-000933
Date Inspected: 19-Nov-2007

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: 1430
Location: Benica, CA

CWI Name: William Norris

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: 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 Quality Control (QC) Inspector William Norris to observe QC functions during the welding of the Procedure Qualification Record (PQR) number ABF-PQR-020-1-A and ABF-PQR-011-1-E.
ABF-PQR-020-1-A.

1. The QA Inspector periodically observed American Bridge Flour welding personnel Daniel Gordon and Rick Clayborn performing the base material preheating prior to continue welding per the Flux Cored Arc Welding (FCAW) process to make Complete Joint Penetration (CJP) groove weld of the PQR identified as ABF-PQR-020-1-A. The welding was being performed using Electrode Hobart Tri-Mark TM-910 E71T-1, 1.6 millimeters diameter and 90% Argon 10% CO2 shielding gas. The welding was being conducted using track guided “Bug-O-System self propel wire feeder” in the 3G (vertical) position.

a) Prior to the start of welding the QA Inspector observed QC Inspector William Norris verify the base material preheating temperature, the electrical welding parameters and travel speed to be approximately 160 degrees Celsius, 274 amperes, 23.7 volts and 120.63 millimeters/minute travel speed.

b) During welding QA Inspector periodically observed the QC Inspector William Norris verifying and documenting the base material temperature, amperage, voltage and travel speed.

c) After welding was completed the PQR test plate was visually inspected by the QC Inspector William Norris. William Norris notified QA Inspector the test plate weld profile was visually acceptable in accordance with the

figure 3.3 of the AWS D1.5-2002. The QA Inspector observed the welding and visual verifcation appeared to be in general compliance with the project specfications. QC Inspector William Norries 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-011-1-E.

2. Prior to starting welding the PQR number ABF-PQR-011-1-E QC Inspector William Norris provided the QA Inspector with a copy of the Mill Test reports for both the base and backing material, the electrode manufactures certifications. The QA Inspector observed the documents appeared to comply with the project specifications.

a) QC Inspector William Norris informed the QA Inspector the plates for the PQR had been tack welded together and that he had performed and accepted the fit up of the weld joint. The PQR weld joint is 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 following. 25.4 millimeters thick base material plates, 12.7 millimeters thick backing bar, 45 degree inclusive groove angle and the root opening of the groove was approximately 6.35 millimeters wide. The overall length of the groove weld, not including the run off tabs, was 760 millimeters.

b) QA Inspector was informed by QC Inspector William Norris a range for the welding parameters (amperage, voltage and travel speed) had been predetermined for the welding of the PQR test plate. Prior to starting welding QA Inspector observed the QC Inspector William Norris verify the base material preheating temperature and the electrical welding parameters to be approximately 101 degrees Celsius, 244 amperes, 19.8 volts and 92.30 millimeters/minute travel speed.

c) QA Inspector periodically observed Daniel Gordon and Rick Clayborn performing the welding operation per the Flux Cored Arc Welding Self Shielded (FCAW-S) process to make CJP groove weld of the PQR identified as ABF-PQR-011-1-E in the 3G (vertical) position. The welding was being performed using Electrode Esab Coreshield 8, E71T-8, .072-inch diameter. The welding was being conducted using track guided “Bug-O-System self propel wire feeder”.

b) During welding QA Inspector observed Rick Clayborn performing air carbon arc cutting (gouging) to remove filler metal on one side of the groove full length of test plate. Rick Clayborn informed QA Inspector that he opened up the groove to have space between welding layers to accommodate next welding pass. The QA Inspector observed QC Inspector William Norris verifying and documenting the base material temperature, amperage, voltage and travel speed of each welding pass.

The QA Inspector observed the welding performed at this location appeared to be in general compliance with the project plan and specifications. The welding was not completed on this test plate at this location on this date.

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.

Comments

WELDING INSPECTION REPORT

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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
Reviewed By:	Mertz,Robert	QA Reviewer