

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 #: 01.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-029930**Date Inspected:** 22-Aug-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Jesus Cayabyab & Bernie Docena			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:	See Below		

Summary of Items Observed:

Quality Assurance Inspector (QAI) Edward Leach was at the American Bridge/Flour (ABF) job site at Yerba Buena Island between the times noted above in order to monitor Smith Emery Quality Control (QC) functions and the in process work being performed by ABF personnel. The following items were observed:

Tower Skirt Ring Beam South Shaft

The QAI observed QC Inspector Bernie Docena perform Magnetic Particle Testing (MT) examination with a hand held yoke, final visual inspection on all welds & Ultrasonic Testing (UT) examination for Complete Joint Penetration (CJP) weld on side A of south tower ring beam. The UT was performed with a straight beam examination followed by a full volumetric shear wave examination with a transducer/70° plastic wedge combination. No relevant indications were noted during examination and the welds were accepted by both QAI and QC.

Tower Skirt Ring Beam East Shaft

The QAI observed ABF welding personnel Guo Wu Chen performing in-process fit-up for the east tower shaft ring beam. Welder was performing bevel prep and removing the protective zinc coating from areas adjacent to the welds. The QAI also observed the welder perform SMAW buttering on the outside flange to increase the length dimension by 10mm. The buttering process was performed with Atom Arc E7018-1 H4R, 1/8" diameter electrode in the vertical position and was still in process at the end of the shift.

RWR201308-004

ESW S-043, Location "T" Face B

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The QAI periodically observed ABF welding personnel Mike Jimenez utilizing the Shielded Metal Arc Welding (SMAW) process in the vertical (3G) position with Atom Arc E7018-1 H4R, 5/32" diameter electrode to begin welding excavation for weld repair. The welding is taking place on the exterior (west) side at joint T, weld #S-043 #13 on Face B side for a repair designated as 201308-004. Excavation dimensions are noted as Y=3000mm-3360mm, Length=360mm, Width=80mm, Depth=74mm. The QAI observed the interpass temperature was maintained at approximately 372 degrees Fahrenheit with electric heating coil blankets through a heat induction system and a rose bud torch. The QAI verified interpass temperature with a thermal heat gun. As welding continued the QAI periodically verified welding parameters at approximately 145 amperes per ABF-WPS-D1.5-ESW-80-100TR. The welder was also observed using proper interpass cleaning methods with a slag hammer and a wire brush. QC Inspector Jesus Cayabyab was monitoring the progress of this repair on this date.

Tower Skirt Ring Beam West Shaft

The QAI periodically observed ABF welding personnel Rick Chounard at the above location utilizing the Shielded Metal Arc Welding (SMAW) process in the vertical (3G) position with Atom Arc E7018-1 HR4, 1/8" diameter electrode to complete in process welding for side B of Complete Joint Penetration (CJP) joint splice weld. As welding continued the QAI verified welding parameters at approximately 128 amperes per Welding Procedure Specification (WPS) ABF-WPS-D1.5-1020, Rev1. The welder was also observed using proper interpass cleaning methods with a slag hammer and a wire brush. The QAI later observed QC Inspector Bernie Docena perform Magnetic Particle Testing (MT) examination with a hand held yoke, final visual inspection on all welds & Ultrasonic Testing (UT) examination for Complete Joint Penetration (CJP) weld on side B of west tower ring beam. The UT was performed with a straight beam examination followed by a full volumetric shear wave examination with a transducer/70° plastic wedge combination. No relevant indications were noted during examination and the welds were accepted by both QAI and QC.

RWR201307-009

ESW E-045, Location "F" Face B

The QAI periodically observed ABF welding personnel Wai Kit Tai utilizing the Shielded Metal Arc Welding (SMAW) process in the vertical (3G) position with Atom Arc E7018-1 H4R, 5/32" diameter electrode to continue welding excavation for weld repair. Excavation dimensions are noted as Y=6350mm-6690mm, Length=340mm, Width=60mm, Depth=52mm. The QAI observed the interpass temperature was maintained at approximately 400 degrees Fahrenheit with electric heating coil blankets through a heat induction system. The QAI verified interpass temperature with a thermal heat gun. As welding continued the QAI periodically verified welding parameters at approximately 150 amperes per ABF-WPS-D1.5-ESW-90T. The welder was also observed using proper interpass cleaning methods with a slag hammer and a wire brush. QC Inspector Jesus Cayabyab was monitoring the progress of this repair on this date.

The welding & workmanship observed on this date appeared to be in general compliance with the contract specifications. The following pictures below detail some of the observations made on this date.

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Summary of Conversations:

General conversations with ABF/JV QC NDT personnel relevant to work and testing performed during this shift.

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 Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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Inspected By:	Leach,Ed	Quality Assurance Inspector
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Reviewed By:	Reyes,Danny	QA Reviewer
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