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-022154
Date Inspected: 23-Mar-2011

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

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name: Fred Von Hoff

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: Tower Grillage

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager was on site between the times noted above.

This QA Inspector arrived on site this morning at 0700 hours and observed the work area was flooded with water. ABF personnel were not working on the Tower Grillage, but setting up pumps to remove the water. This QA Inspector observed a delay of approximately 45 minutes until the water level was lowered.

East Tower leg:

Production welding is completed, QC inspections are completed and accepted, QA verification inspections completed.

South Tower leg:

Repair welding was completed by the end of the shift yesterday (1530, 3/22/11), final QC Inspections on weld joint TG-S-P7-P8 is pending the 48 hour waiting period.

West Tower leg:

This QA Inspector observed ABF welding personnel Rick Clayborn (#2773) was performing carbon arcing at CJP weld joint TG-W-P2-P3. The majority of the repair excavation had been completed the previous day, the excavation was completed at approximately 0900 hours this date. This QA Inspector observed QC Inspector Fred Von Hoff perform a visual and Magnetic Particle Testing (MT) on the final excavation of the repair. QC Inspector Fred Von Hoff informed this QA Inspector the excavation was acceptable. This QA Inspector performed a visual verification and observed the excavation was 175 mm long, 35 mm wide and 32 mm deep. This QA Inspector observed as ABF welding personnel Rick Clayborn (#2773) used a hand held gas torch to preheat the base material prior to welding. This QA Inspector randomly observed as QC Inspector Fred Von Hoff monitored the work including checking the preheat prior to welding using an electric temperature gauge. This QA Inspector observed the repair welding was completed at approximately 1300 hours this date. This QA Inspector observed QC Inspector Fred Von Hoff perform a preliminary visual and MT inspection of the repair weld and informed this QA Inspector both inspections were accepted. This QA Inspector performed a preliminary visual verification of the repair weld and the work observed appeared to comply with the contract requirements. QC Inspector Fred Von Hoff informed this QA Inspector the final QC inspections would be performed Friday afternoon to comply with the 48 hour hold time.

North Tower leg:

This QA Inspector randomly observed QC Inspector Fred Von Hoff performing the preliminary visual and MT on the various Complete Joint Penetration (CJP), Partial Joint Penetration PJP and fillet welds. This QA Inspector randomly observed ABF welding personnel Gil Peralta (#9453) using a grinder to remove excessive weld reinforcement and contour the various welds marked by QC Inspector Fred Von Hoff. At the end of the shift this date the QC inspections and grinding was still in process.
This QA Inspector randomly observed ABF welding personnel Gil Peralta (#9453) fitting and performing SMAW to seal weld the cover plates at the rat holes in all Tower legs, except for the North Tower, skin E adjacent to skin D.

North and South Suspender Brackets:

This QA Inspector completed the visual verification and MT verification of the final welds on both the North and South Suspender Brackets. The work observed appeared to comply with the contract requirements.

This QA Inspector was informed by QC Inspector Fred Von Hoff the welding parameters for the personnel noted above were within the required heat input range in the Welding Procedure Specifications (WPS) ABF-WPS-D15-1162-4 for the PJP welds, ABF-WPS-D15-1042A-4 for CJP welds and ABF-WPS-D15-F1206 for Fillet welds. Note the welding parameters are the same for all three procedures. This QA Inspector randomly observed the amperages and voltages of ABF welding personnel noted above and they appeared to be within the ranges in the WPS. This QA Inspector observed that both 3.2 mm and 4.0 mm diameter E9018H4R electrodes were being used and stored in separate heated storage containers. This QA Inspector also observed the 1-hour exposure limit for the electrodes appeared to be monitored and adhered to.

Transportation Engineer Bob Brignano informed this QA Inspector that high strength fasteners from LeJeune Bolt Company, Geomet load #14, had arrived by truck at Pier #7 and requested that METS samples be taken. This QA Inspector met with Transportation Engineer Bob Brignano at Pier #7 and randomly selected the applicable samples

(bolts, nuts and washers), reviewed the Rotational Capacity (rocap) test report, Mill Test Report (MTR) and finishing Certificate Of Compliance (COC) for each applicable bolt, nut and washer lot/heat. The high strength fasteners were placed in a plastic bag identifying the rocap number, type of bolt, number of samples and this QA Inspectors' applicable lot number for the samples. This QA Inspector completed a Bolt Sample Log (TL-102) and turned the sampled bolts over to Lead QA Inspector Bill Levell for delivery to the Translab in Sacramento, CA.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above there were no notable conversations.

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:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer