DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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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-025889
Date Inspected: 08-Aug-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:	Tony Sherwood			**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: OBG Sections

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 observed the following.

Orthotropic Bridge Girder (OBG) Sections:

10E-PP107-E1 Drip Rails: This QA Inspector randomly observed ABF welding personnel Rick Clayborn (#2773) using the Shielded Metal Arc Welding (SMAW) process in the overhead (4G) and vertical (3G) positions at this location. Fillet welds are performed in the overhead position to attach the drip rails to the OBG section and groove welds are used at the splices of existing to new drip rail sections. This QA Inspector observed QC Inspector Tony Sherwood perform a verification of the following welding parameters; 130 amperes using a 3.2 mm diameter E7018H4R electrode. This QA Inspector performed a random verification of the base metal temperature using an electronic temperature gauge and observed the preheat and interpass temperatures were within the ranges specified on the Welding Procedure Specification (WPS). This QA Inspector randomly observed QC Inspector Tony Sherwood periodically monitoring the work at this location. The welding observed this date appeared to comply with ABF-WPS-D15-1030 Rev-1 for the drip rail splices and ABF-WPS-D15-F1200 for the fillet welds. After completion of the welding at this location this QA Inspector randomly observed QC Inspector Tony Sherwood perform a visual inspection and Magnetic Particle Testing (MT). QC Inspector Tony Sherwood informed this QA Inspector that he had accepted both inspections. This QA Inspector performed a random visual verification and MT on a minimum of 15% of the overall weld length. See Magnetic Particle Inspection Report (TL-6028) this

date for further details.

10E-PP104-E1 Drip Rails: This QA Inspector randomly observed ABF welding personnel Rick Clayborn (#2773) using the Shielded Metal Arc Welding (SMAW) process in the overhead (4G) and vertical (3G) positions at this location. Fillet welds are performed in the overhead position to attach the drip rails to the OBG section and groove welds are used at the splices of existing to new drip rail sections. This QA Inspector observed QC Inspector Tony Sherwood perform a verification of the following welding parameters; 130 amperes using a 3.2 mm diameter E7018H4R electrode. This QA Inspector performed a random verification of the base metal temperature using an electronic temperature gauge and observed the preheat and interpass temperatures were within the ranges specified on the Welding Procedure Specification (WPS). This QA Inspector randomly observed QC Inspector Tony Sherwood periodically monitoring the work at this location. The welding observed this date appeared to comply with ABF-WPS-D15-1030 Rev-1 for the drip rail splices and ABF-WPS-D15-F1200 for the fillet welds. After completion of the welding at this location this QA Inspector randomly observed QC Inspector Tony Sherwood perform a visual inspection and Magnetic Particle Testing (MT). QC Inspector Tony Sherwood informed this QA Inspector that he had accepted both inspections. This QA Inspector performed a random visual verification and MT on a minimum of 15% of the overall weld length. See Magnetic Particle Inspection Report (TL-6028) this date for further details.

Self Anchored Suspension (SAS) Tower:

3-Meter Elevation: This QA Inspector observed QC Inspector Jesus Cayabyab starting to perform Ultrasonic Testing (UT) at this elevation on weld location “W” which is weld number W-041. QC Inspector Jesus Cayabyab informed this QA Inspector the inspection was for information purposes only. This QA Inspector observed welding slag covered the face of the weld at various locations and that multiple surface defects such as undercut, cold lap and lack of fusion was still present, which confirmed QC Inspector Jesus Cayabyab’ comment regarding the UT inspection.

This QA Inspector was informed by QA Inspector Daniel Reyes that QC personnel would be performing UT on the top, approximately 300 mm, section of the Electro Slag Welding (ESW) at location “J”. This QA Inspector was later informed by QC Inspector Steve McConnell the UT inspection would be postponed until the following day.

This QA Inspector reviewed the Ultrasonic Testing procedure submitted and approved for testing the ESW joints and calculated the various sound path and surface distances for the various material thicknesses.

Summary of Conversations:
This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below 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