

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 #: 74.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-011891**Date Inspected:** 29-Jan-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1250**Contractor:** Goodwin Steel, UK**Location:** Stoke-on-Trent, UK

CWI Name:	None		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No
Rod Oven in Use:	Yes	No
Weld Procedures Followed:	Yes	No
Verified Joint Fit-up:	Yes	No
Approved WPS:	Yes	No
Delayed / Cancelled:	Yes	No

Bridge No: 34-0006**Component:** Cable Band Castings**Summary of Items Observed:**

The following report is based on METS Caltrans QA Inspector Mike Brcic's observations at Goodwin Steel Castings, Stoke-on-Trent, England, UK, on the above noted date and times.

REPAIR WELDING

- GG29433-10 (B8-1-F) This QA Inspector observed welder Adam Migas, welder ID AM80, performing Shielded Metal Arc (SMAW) process, 5mm, E7018-1 electrode, in the 1G, flat position. Parameters of WPS 04-0120F4B issue 5, were verified and followed, Amp average during observation was 220, voltage was 25. During observation, this welder began a second layer utilizing 4mm electrode with variables of 179 Amps and 24.3 Volts. Temperature of casting exceeded 170° Celsius (preheat) and was below 399° Celsius for an interpass temperature, these were the actual temperature limits verified by the use of temperature melting sticks. Travel Speed of 4mm electrode passes was 250mm/in. Excavation in work was identified as #4 (weld build up), classified as "Major", on the approved Weld Excavation Map.

WELD EXCAVATION MAP REVIEW

The following Weld Excavation Maps were deemed acceptable after thorough review and was forwarded to Mr. Randy Riegler, Caltrans Lead Inspector, for approval to proceed:

WELDING INSPECTION REPORT

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- GG29429-4, B7-F Classified "Minor", with 2 excavations to be repaired by welding with procedure WPS04-0120F4A Issue 5, SMAW process. The map was then forwarded for site lead QA Inspector for approval to proceed with rework.

- GG29437-4, B9-F Classified "Major", with 8 excavations to be repaired by welding with procedure WPS04-0120F4B Issue 5, SMAW process. The map was then forwarded for site lead QA Inspector for approval to proceed with rework.

DOCUMENT PACKAGE REVIEW

This QA inspector completed a review of the final document package received, including the Certificate of Conformity for the following cable band casting:

- GG29429-9, drawing 5540-B7-1-F; package was deemed acceptable and returned for preparation for dispatch to Goodwin International machine shop. The foundry operations are complete including Visual Inspection, Nondestructive Testing, Mechanical Testing, and casting repair.

- GG29429-8, drawing 5540-B7-1-F; review of the package warranted the return of the document to the Quality Department staff due to a variation that this QA Inspector noted, between the cable band Heat Treat condition and the keel block used to represent it. It is the intent of Goodwin Steel Casting to locate a 'cast on' block of the same heat/ladle and heat treat it with exact temperatures and soak times to replicate this casting with subsequent mechanical testing.

- GG29423-13, drawing 5540-B4-1-F; review of Certificate of Conformity mechanical results were compared with the Laboratory logbook and found to differ substantially. This was brought to the attention of Mr. Jason Cross, Quality Director, GSC, who commenced an investigation revolving around the process and documentation of test results and the administrative means to which the Certificate of Conformity is produced. This QA Inspector also noted a lack of documented inspection of 100% inspection following PWHT.

Unless otherwise noted, all observations reported on this date appeared to be in general compliance with applicable contract documents.

Summary of Conversations:

No significant conversations took place this day that this Caltrans METS Inspector was a party to.

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, 1(510)385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Brcic,Michael	Quality Assurance Inspector
Reviewed By:	Edmondson,Fred	QA Reviewer
