

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028753**Date Inspected:** 12-Nov-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Goodwin Steel, UK**Location:** Stoke-On-Trent, UK**CWI Name:** Fred Hawksworth**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:** Type B16 Cable Bands**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Art Peterson arrived at Goodwin Steel Casting (GSC) Foundry in Stoke-on-Trent, England to observe the upgrade – (welding of excavated areas) operation on the Type B16 supplementary cable band castings. The manufacturing of the additional Type B16 supplementary cable bands at the GSC Foundry are part of a risk management strategy to address the concern with certain cable band gaps closing up as the work is progressing on-site during the main cable load transfer to the orthotropic box girders. The following castings observed at the GSC Foundry on this date were:

Cable Band Casting GG37015-9 (Female Section):

The QA Inspector randomly observed GSC welding personnel Witold Kaminsky performing the Shielded Metal Arc Welding (SMAW) operation in the (1G) flat position on the excavated areas on cable band casting Female section GG37015-9. The visual inspection of the excavated areas – (2) areas total on cable band casting Female section GG37015-9 were performed on first shift by Applied Inspections' CWI Fred Hawksworth and witnessed by Caltrans QA Inspector Shailesh Wadkar. The excavated areas listed on the weld excavation map were considered to be classified as minor weld repairs only.

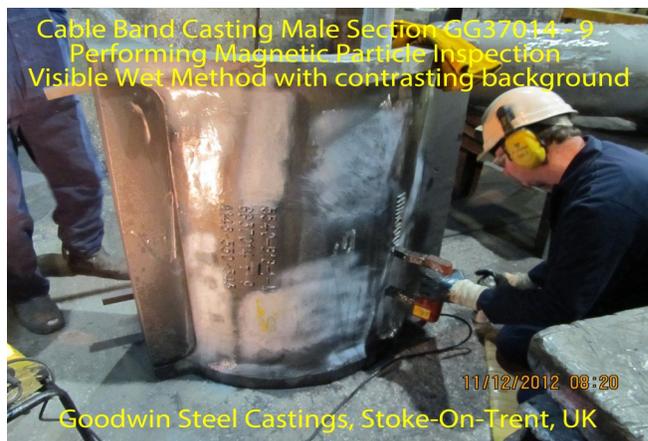
Prior to the start of the welding operation, the QA Inspector verified and observed that Steve Woodcock performed the preheat operation to the minimum temperature listed in WPS 04-0120F4A Issue 5 of 160 degrees Celsius and utilized the 160 degree Celsius tempilstik to verify the temperature at least 75 mm around the perimeter of the (2) excavations. Afterwards, the QA Inspector verified that the welding parameters – (Amps) were observed to be between the minimum of 80 and maximum of 140 utilizing the (3.2) diameter electrode as listed on the approved WPS 04-0120F4A Issue 5.

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The repair weld operation observed on the (2) excavated areas of the (2) total appeared to be in general compliance with WPS 04-0120F4A Issue 5.

Note: These (2) surface breaking indications were detected by the magnetic particle inspection test method – (wet black visible particles with white contrasting background applied) on the cable band casting’s exterior surface after the post weld heat treatment was performed on a total of (24) weld repairs – (8) were classified as major repairs and (16) were classified as minor repairs. These (2) minor weld repair areas were not a second time weld repair from any of the locations of the previous (24) weld repairs performed.



Summary of Conversations:

Except as noted above, only general conversations between this QA Inspector and Goodwin Steel Casting production personnel relevant to the welding operation performed on the (1) cable band casting Female clamp section of the Type B16 supplemental cable bands.

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.

Inspected By:	Peterson, Art	Quality Assurance Inspector
Reviewed By:	Foerder, Mike	QA Reviewer
