

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-016250**Date Inspected:** 16-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1300**Contractor:** Goodwin Steel, UK**Location:** Trentham, UK**CWI Name:****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:** Cable Band**Summary of Items Observed:**

The following report is based on METS observations at Goodwin International Machine shop in Trentham, England.

The QA Inspector received and completed review of the partial documentation package for East Panel Point 64 (EPP-64). This is a B5 Type 1 cable band consisting of castings 5540-B5-1-M-2, GG29424-2 and 5540-B5-1-F-5, GG29425-5. This review was completed prior to shipment of the castings to South Staffs for coating. The following are applicable to these castings: ABF-RFI-1724R0 and ABF-RFI-1725R0 for the male and female castings. The document package appeared to be in conformance with contract documents.

The QA inspector observed Goodwin International welding personnel William Whyte perform welding of 14 excavations on casting GG29436-4, B9-1-M Revision 2. The repair plan was submitted to the QA on August 13, 2010 for verbal approval. The repair welding utilized the gas shielded tungsten arc weld (GTAW) process per the welding procedure specification WPS 271 Rev 1 in the 1G (flat) position. The filler metal utilized was identified as 2.4mm diameter CMW 1940. The minimum preheat temperature of 20 degrees Celsius was verified to meet the WPS requirements by the QA inspector utilizing a Tempilstik temperature indicator. The GTAW welding average amperage of 160, voltage of 12.3 and travel speed of 100mm/min was verified to be within the WPS parameter range by the QA inspector. The work was completed on this date and appears to meet the minimum requirements of the welding procedure specification. See pictures below.

Machine Shop

The QA inspector periodically observed that Goodwin International personnel perform finish grinding of

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assembled B7 cable bands, castings GG29428-8, B7-1-M and GG29429-3, B7-1-F for West Panel Point 50. All sharp edges from the machining operations and suspender groove transitions were ground to required finish by Goodwin International personnel.

The QA inspector periodically observed the in process machining of an assembled B7 cable band, castings GG29428-7, B7-1-M, and GG29429-10, B7-1-F for West panel point 54. The interior bore of this casting was being machined on horizontal mill TSS – 30 to final finish requirements. Goodwin International personnel performed the machining.

The QA inspector periodically observed the in process machining of an assembled B7 cable band castings GG29428-2, B7-1-M, and GG29429-11, B7-1-F for East panel point 54. The interior bore of this assembly was being machined on the Benet horizontal mill to rough requirements. Goodwin International personnel performed the machining.

The QA inspector periodically observed the in process machining of an assembled B9 cable band, castings GG29436-6, B9-1-M, and GG29437-2, B9-1-F for West panel point 22. The handrail stanchion mount pads of this casting were being machined on a horizontal mill to final finish requirements. Goodwin International personnel performed the machining.

The QA inspector periodically observed the in process machining of cable band casting GG29439-1, B10-1-F. The joint face of this casting was being machined on a horizontal mill to final finish requirements. Goodwin International personnel performed the machining.

The QA inspector periodically observed the in process initial dimensioning and layout of type 1 and 2, cable bands GG29431-2, B8-1-F, and GG29443-2, B11-2-F. The overall dimensions are marked out on each casting and recorded. Using the overall dimensions and the centerline to bottom of the suspender groove dimension, the best match between halves will be selected.



Summary of Conversations:

During this visit, METS met with, Mr. Alan Bentley to discuss Submittal 366R149 for casting GG29427-6. This repair is to build up the cast material to maintain the 75mm radius outside the suspender groove. The repair areas detailed are 614 cm², 280 cm² and 168 cm². The approximate maximum repair area per ASTM A148M is 65 cm² for the Welding Procedure submitted. This QA inspector reported that most of the repair area may be acceptable

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in accordance with RFI – 200R0 response, which would allow the repair areas to be reduced in size to meet the requirements of ASTM A148M. Mr. Bentley stated that he would review the submitted repair plan.

RFI 200R0 Response

“In response to the acceptance criteria for the 75mm radius:

- a) The groove wall thickness must be within tolerance. Specifically, at both the center (one rope radius from the bottom) of the suspender groove and at 10mm above the bottom of it.
- b) The curvature must be smooth and there must not be any obvious sharp stress raisers.
- c) The proposed acceptance criteria are not acceptable. Acceptability of the radius will be judged on items a) & b) above.”

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:	Lanz,Joe	Quality Assurance Inspector
Reviewed By:	Edmondson,Fred	QA Reviewer
