

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: 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-012845**Date Inspected:** 23-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Goodwin Steel, UK**Location:** Stoke-on-Trent, UK

<b>CWI Name:</b>	N/A	<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>
<b>Inspected CWI report:</b>	<b>Yes</b> <b>No</b> <b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b> <b>No</b> <b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b> <b>No</b> <b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b> <b>No</b> <b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
		<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Bridge No:</b>	34-0006	<b>Component:</b>	Cable Band	

**Summary of Items Observed:**

The following report is based on METS observations at Goodwin Steel Castings, Stoke-on-Trent on this date:

QA inspector observed, Goodwin Steel Castings NDT Level II technician Mr. Craig Frain perform Magnetic Particle testing (MT) of Cable Band casting GG29436-4, B9-1-M. This was the initial test following post weld heat treatment. The MT was performed in accordance with ASTM standard E709 and Goodwin Steel Castings Magnetic Particle Procedure for Cable Band Castings MT06-09-02 revision 5, using the prod method with leach magnet contacts. Wet fluorescent magnetic particles were utilized. The direct current magnetizing current appeared to be approximately 1,800 amps. A number of indications were marked by Mr. Frain. These will be dressed and retested. The testing was completed on this date and the Quality Assurance Inspector did concur with Mr. Frain's inspection results.

The QA Inspector observed weld repairs in progress on Casting GG29441-2. Drawing Number 5540-B10-2-F. Mr. A. Barnett, Welder Number 59 was observed welding excavation number 4 on revision 4 of the Weld Excavation Map. Mr. Barnett was using WPS04-0120F4B Issue 4 which was available at the work station. The casting was preheated to 160 degrees C, and verified with a temp stick. The amperage was observed to be 160 amps, the Voltage was observed to be 22 Volts. Four (4) mm E7018-1 was being used and the rod quiver in use was warm to the touch.

The QA Inspector reviewed radiographic film of casting GG29445-2, Drawing 5540-B13-2-F. Three locations were radiographed on night shift. The locations are: Band S Location 3-4, Band T Location 3-4, and Band L Location 1-2. The area at Band S Location 3-4 will be reshot due to an apparent false indication.

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## WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

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The QA Inspector then traveled to Goodwin International, Trentham, UK where weld excavation maps for castings currently at Goodwin International were reviewed. The QA Inspector observed Mr. F. Hawksworth, CWI perform the QC Review of the following weld maps:

-Casting GG29419-2, Drawing 5540-B2-1-F: Mr. Hawksworth identified a discrepancy in that the location of the repair was recorded incorrectly. Mr. Hawksworth returned the weld map for correction.

-Casting GG29419-5, Drawing 5540-B2-1-F: Mr. Hawksworth identified a discrepancy in that the location of the repair was recorded incorrectly. Mr. Hawksworth returned the weld map for correction.

-Casting GG29421-18 R1, Drawing 5540-B3-1-F: Mr. Hawksworth accepted this weld map and the the QA Inspector did agree with Mr. Hawksworth. The Weld Excavation Map was reviewed for accuracy and compliance with contract documents. This second repair cycle is a minor repair and does not require post weld heat treatment. Caltrans Lot Number B243-095-10 was assigned for tracking purposes.

-Casting GG29421-14, Drawing 5540-B3-1-F: Mr. Hawksworth accepted this weld map and the the QA Inspector did agree with Mr. Hawksworth. The Weld Excavation Map was reviewed for accuracy and compliance with contract documents. This initial repair cycle is a minor repair and does not require post weld heat treatment. Caltrans Lot Number B243-096-10 was assigned for tracking purposes.

-Casting GG29419-4, Drawing 5540-B2-1-F: Mr. Hawksworth accepted this weld map and the the QA Inspector did agree with Mr. Hawksworth. The Weld Excavation Map was reviewed for accuracy and compliance with contract documents. This initial repair cycle is a minor repair and does not require post weld heat treatment. Caltrans Lot Number B243-097-10 was assigned for tracking purposes.

### **Summary of Conversations:**

No relevant 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.

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<b>Inspected By:</b>	Riegler,Randy	Quality Assurance Inspector
<b>Reviewed By:</b>	Edmondson,Fred	QA Reviewer

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