

**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-010122**Date Inspected:** 09-Nov-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 755**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1910**Contractor:** Goodwin Steel, UK**Location:** Stoke-on-Trent, UK

<b>CWI Name:</b>	N/A	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes No N/A	
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes No N/A	
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes No N/A	
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes No N/A	
		<b>Delayed / Cancelled:</b>	Yes No N/A	
<b>Bridge No:</b>	34-0006	<b>Component:</b>	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 (GSW), Stoke-on-Trent, England, UK on 9 November 2009.

**REPAIR WELDING**

\* GG31825-3 (B14-SBB) Observed a contract welder Darren Hodkinson, performing Shielded Metal Arc Welding (SMAW) process using 4mm diameter, E7018-1 electrode, in a 2G position. Parameters of WPS 04-0120F4B issue 4 (casting repair cycle is classified as a Major), were verified and followed; actual Amp range during observation was 140 ~ 157, voltage 23.5 ~ 25. Temperature of casting exceeded 170° Celsius (preheat min 160°) and was below 371° Celsius for an interpass temperature (max 425°), both values confirmed with temperature sticks. Excavation in work was identified as #10, per the Weld Excavation Map. Electrodes were held in a heated quiver and slag removal was accomplished using a pneumatic needle gun.

**NDT TESTING**

Mr. A. Banks, Goodwin Steel Casting ASNT Level II Magnetic Particle (MT) inspector, was observed performing MT on cable band GG29448-4, confirming the removal of blended surface discontinuities in repair welds. No defects were noted. Method employed was Fluorescent Particle applied by aerosol, circular magnetism induced by way of prods, DC (half wave rectified AC) power. Particles were applied during current flow, making it the Continuous Method, as per Goodwin Procedure MT06-09-02 rev 4, ASTM E709 and contract documents.

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## WELDING INSPECTION REPORT

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Reviewed Calibration of Magnetic Particle Inspection unit (Magnaflux model KCH-4D) placed on a annual periodicity due 04/02/10 and performed a cal verification of an Ultraviolet light S/N B465, intensity was 1100 $\mu$ W/cm squared.

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

### Summary of Conversations:

This Caltrans METS Inspector had occasion to talk to Goodwin Steel Casting Foundry Mold Shop Manager, John Bunker who confirmed the fact that the last Cable Band casting, B13 Type 2 ident -2 is scheduled for pour Wednesday, 11 November 2009.

### 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.

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

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