

**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-012090**Date Inspected:** 10-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 750**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Goodwin Steel, UK**Location:** Trentham, 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 Caltrans METS QA Inspector Mr. Mike Brcic's observations at Goodwin International (GI), Trentham, UK on 10 February 2010.

**RANDOM REVIEW OF DIMENSIONAL REPORT:**

These Bands are being prepared for shipment to South Staff Coatings for Metalizing and Paint, the final dimensional and visual inspection had been conducted by Mr. Andrew Cashmore, QC, Goodwin International. This QA Inspector was notified by Mr. Alan Bentley, Quality Director, that multiple castings were available for a random review, of the reported dimensions, and spot check the visual condition of the castings being prepared for transfer. All castings have tooling marks left by lifting mechanism that will require repair by dressing/ blending and subsequent Magnetic Particle Inspection (MPI) to meet criteria established by contract requirements. Actual shipment of acceptable castings is not expected to take place 'til the week of 15~20 February 2010.

**East Panel Point (EPP) 104**

~ GG29417-8, 5540-B1-F Cable Band: Casting has had its Heat # correctly stamped to reflect that established by the Goodwin Steel Casting Foundry, in Stoke-on-Trent, as previously reported, the stamp had inadvertently been stamped as C7969, versus actual C7959. Areas of dressing were identified as requiring MPI.

~ GG29416-1, 5540-B1-M Cable Band: This same QA Inspector has noted this casting also reflected a wrong Heat#, stamped was F7352, actual is F7325. See below for pertinent conversation. Porosity exceeding MSS

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SP55-2001 Type IV Porosity comparator existed on the interior rope groove flange, extending approximately 320mm along the upper part of the lip, it is of the opinion of Goodwin International that this area be repaired by blending and MPI'd.

### West Panel Point (WPP) 104

~ GG29417-4, 5540-B1-F Cable Band: Lower rope groove wall dimension of 48mm's (+6) is exceeded by as much as 11mm's with the a spanning length of 530 mm's in excess of tolerance.

~ GG29416-5, 5540-B1-M Cable Band: Drain holes have been identified as being 5.25mm's off location, it is the intent of GI to submit an RFI requesting an "use as is" disposition, at this time.

### West Panel Point (WPP) 110

~ GG29417-9, 5540-B1-F; GG29416-6, 5540-B1-M Cable Band: After bringing the two halves together, a mismatch was observed at the rope groove. It is of the opinion of GI Quality staff that the mismatch be addressed by hand working (dressing) the two halves, using the tolerance of each to better meet the specification outlined by note 5 of drawing 5540-B1-4-F . "MISALIGNMENT OF SUSPENDER GROOVES SHALL BE SPLIT EQUALLY BETWEEN THE TWO SUSPENDER GROOVES". Mr. Alan Bentley, Quality Director stated the condition exists due to the fact that these two castings had already had their holes located/drilled, and therefore, no chance to correct the misalignment sooner.

### WELD PROCESS REVIEW:

Weld Supervisor, Steve Young (welder ID # SY911), was observed depositing weld material (build-up) to satisfy the approved repair, in ABF-RFI-001947R00, to casting, GG31825-6. Classified as a Major repair to be welded using the Shielded Metal Arc Weld (SMAW) process, per WPS04-0120F4B issue 5. Preheat was performed using strip heaters covered with thermal blankets. Preheat and interpass temperatures were verified by welder using Temperature sticks of 170° and 399° Celsius respectively, assuring parameters of WPS are met. Actual Amps and Volts during this observation were 218 and 23, respectively. Electrode in use was E7018-1, 5mm. Travel Speed was observed to be 289mm/minute.

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

### Summary of Conversations:

Upon discovering the Heat # disparity on the second casting presented by Goodwin for the "Dimensional Review" it was conveyed by this QA Inspector to Mr. Alan Bentley, the imperative nature of maintaining traceability on products supplied for this contract. Mr Bentley agreed to ensure an internal NCR is initiated by the Foundry (Goodwin Steel Castings, of Stoke-on-Trent). The QA Inspector also told Mr. Bentley that if the condition was discovered again by a representative of Caltrans, an NCR will then be initiated by a Caltrans METS QA Representative.

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## 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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