

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-010123**Date Inspected:** 03-Nov-2009**Project Name:** SAS Superstructure**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Contractor:** Goodwin Steel, UK**OSM Arrival Time:** 900**OSM Departure Time:** 1800**Location:** Stoke-on-Trent, 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 Steel Castings, Hanley, Stoke on Trent, UK on this date.

The QA Inspector viewed a mold in the casting shop in the pit for casting drawing 5540 -B13-2-F. This casting was poured last night. The only casting remaining to be cast is 5540-B13-2-M.

The QA Inspector observed Casting GG 29439-2 Drawing 5540-10-1-F in fettling under preheat for removal of the risers and runners.

The QA Inspector observed Casting GG29448-4 Drawing B15-1-M being welded by Witold Kaminski (Vito) Welder ID 629 to effect repair of the base metal. The welding power supply being used was Serial Number TA110Q5653. The amp and volt meters were last calibrated May 11, 2009 and are due for recalibration May 11, 2010. Mister Kaminski was observed using the Shielded Metal Arc Welding process. WPS 04-0120F4B was being used. He was using 4 mm E7018-1 electrode at 157 to 168 amps and 22 to 30 volts and was using temperature indicating crayons with temperatures of 170 degrees Celsius to verify minimum preheat and 371 degrees Celsius to verify maximum interpass temperature.

The QA inspector received a copy of the Goodwin Steel Castings "Weld Excavation Map" for casting GG29429-9, B7/F-9. Additional areas for repair were added to the Weld Excavation Map. The Weld Excavation Map was reviewed for accuracy and compliance with contract documents. This first repair cycle is a major repair and requires post weld heat treatment. Caltrans Lot number B243-255 was assigned for tracking purposes.

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Summary of Conversations:

The QA Inspector had a conversation with Jason Cross, QA Manager regarding CCO-57S1 and its application to the qualification of a WPS for the flux core welding process. It was pointed out to Mr Cross that the CCO establishes additional essential variables. Those additional essential variables are travel speed (limited to +/- 10%), and heat input (limited to +10%, -30%). ASME Code Section IX states in QW 100.1 states:

The Procedure Qualification Record (PQR) documents what occurred during welding the test coupon and the results of testing of the coupon. As a minimum, the PQR shall document the essential variables and other specific information identified in Article II for each process used during welding the test coupon and the results of the required testing. In addition, when notch toughness testing is required for procedure qualification, the applicable supplementary essential variables for each process shall be recorded.

The QA Inspector stated that it would appear that the this paragraph in conjunction with the requirements from CCO 57S1 require that all passes made in the qualification of the WPS be within the limits of heat input and travel speed specified in the CCO.

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:	Riegler,Randy	Quality Assurance Inspector
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Reviewed By:	Edmondson,Fred	QA Reviewer
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