

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-008482**Date Inspected:** 06-Aug-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Goodwin Steel, UK**Location:** Stoke-on-Trent, UK

CWI Name:	none	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, Stoke-on-Trent, UK England.

Radiography of B4-1-M GG29422-8 is complete and film is awaiting interpretation by Goodwin personnel.

Repair welding on casting B8-2-F was observed. Mr. Gordon Douglas was making the welds. He was using WPS04-0120F4B for the repair. The WPS was available to the welder in the welding booth. The welder was observed verifying the inter-pass temperature. The welder was using 4 mm electrode and running 116 to 124 amps which is within the WPS range of 100 180 amps. He was observed welding in the horizontal and vertical positions. He is qualified in both positions.

The following tensile testing was performed by Goodwin Steel Castings Quality Control Technician, Mr. Martyn Hilditch. The testing was witnessed and completed today:

GG29423-10, Heat C8040 Initial

Yield Strength	343 N/mm ²
Ultimate Tensile Strength	677 N/mm ²
Elongation	23 %
Reduction of area	41 %

GG29423-11, Heat F7649 Initial

Yield Strength	374 N/mm ²
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Ultimate Tensile Strength	630 N/mm ²
Elongation	28 %
Reduction of area	50 %

GG29427-4, Heat F7567 Initial

Yield Strength	413 N/mm ²
Ultimate Tensile Strength	589 N/mm ²
Elongation	26 %
Reduction of area	47 %

GG29428-2, Heat F7636 Initial

Yield Strength	366 N/mm ²
Ultimate Tensile Strength	588 N/mm ²
Elongation	30 %
Reduction of area	60 %

GG29429-2, Heat C8029 Initial

Yield Strength	391 N/mm ²
Ultimate Tensile Strength	770 N/mm ²
Elongation	19 %
Reduction of area	34 %

GG29446-4, Heat C8026 Initial

Yield Strength	317 N/mm ²
Ultimate Tensile Strength	555 N/mm ²
Elongation	30 %
Reduction of area	52 %

The Yield Strength is less than the minimum requirements of 350 N/mm²

This sample failed

GG29447-3, Heat F7620 Initial

Yield Strength	419 N/mm ²
Ultimate Tensile Strength	602 N/mm ²
Elongation	26 %
Reduction of area	59 %

GG29418-5, Heat F7587 Initial

Yield Strength	406 N/mm ²
Ultimate Tensile Strength	500 N/mm ²
Elongation	30 %
Reduction of area	60 %

The Ultimate Tensile Strength is less than the minimum requirements of 550 N/mm²

This sample failed

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GG29418-6, Heat C8008 Initial

Yield Strength	444 N/mm ²
Ultimate Tensile Strength	631 N/mm ²
Elongation	28 %
Reduction of area	55 %

GG29427-8, Heat F7563 Initial

Yield Strength	423 N/mm ²
Ultimate Tensile Strength	716 N/mm ²
Elongation	26 %
Reduction of area	49 %

GG29450-4, Heat C8033 Initial

Yield Strength	391 N/mm ²
Ultimate Tensile Strength	582 N/mm ²
Elongation	32 %
Reduction of area	54 %

GG29428-3, Heat F7637 Initial

Yield Strength	378 N/mm ²
Ultimate Tensile Strength	604 N/mm ²
Elongation	30 %
Reduction of area	55 %

GG29448-3, Heat C8020 Initial

Yield Strength	374 N/mm ²
Ultimate Tensile Strength	565 N/mm ²
Elongation	30 %
Reduction of area	53 %

GG31825-4, Heat F7539 Initial-retest

Yield Strength	454 N/mm ²
Ultimate Tensile Strength	649 N/mm ²
Elongation	24 %
Reduction of area	47 %

The following castings are complete, the shipping documents are complete, and they are ready for dispatch to Goodwin International Limited:

- B1-1-M GG29416-10
- B1-1-F GG29417-9, and 10
- B6-1-M GG29426-1
- B9-1-F GG29437-1

Requested a copy of the MITP from Jason Cross for the manufacture of the nuts and washers. He reports that there

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is none. He will request BST to amend the existing MITP to include nuts and washers.

Summary of Conversations:

Requested a copy of the MITP from Jason Cross for the manufacture of the nuts and washers. He reports that there is none. He will request BST to amend the existing MITP to include nuts and washers.

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:	Lanz,Joe	QA Reviewer
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