

**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 #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009189**Date Inspected:** 08-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Japan Steel Works**Location:** Muroran, Japan

**CWI Name:** Chung Fu Kuan  
**Inspected CWI report:** Yes No N/A  
**Electrode to specification:** Yes No N/A  
**Qualified Welders:** Yes No N/A  
**Approved Drawings:** Yes No N/A

**CWI Present:** Yes No  
**Rod Oven in Use:** Yes No N/A  
**Weld Procedures Followed:** Yes No N/A  
**Verified Joint Fit-up:** Yes No N/A  
**Approved WPS:** Yes No N/A  
**Delayed / Cancelled:** Yes No N/A

**Bridge No:** 34-0006**Component:** Tower, Jacking, and Deviation Saddles**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. Art Peterson was present during the times noted above for observations relative to the work being performed in Fabrication shop #4 and the Foundry at Japan Steel Works.

**Fabrication Shop #4:**

Cleaning Operation in-process on Saddle: Tower Saddle Segment T1-3

The QA Inspector observed that the final post weld heat treatment (PWHT) stress relief operation has been completed on tower saddle segment T1-3. The tower saddle segment is in-process of being blast cleaned on all weld surfaces including the adjacent base metal for the final Non-Destructive Testing (NDT) operations to be performed by the magnetic particle test (MPT) method and the ultrasonic test (UT) method.

Cleaning Operation pending on Saddle: West Deviation Saddle Segment W2-W3

The QA Inspector observed that the final post weld heat treatment (PWHT) stress relief operation has been completed on west deviation saddle segment W2-W3. The west deviation saddle segment will be blast cleaned on all weld surfaces including the adjacent base metal for the final Non-Destructive Testing (NDT) operations to be performed by the magnetic particle test (MPT) method.

ABF-RFI-001811R00: Modified MC Shapes for East Saddle Rocker Bearing Plates E2-E1 and E2-W1

1) The QA Inspector observed that Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. R. Kumagai (#132) performing the magnetic particle test (MPT) inspection (dry method) on the (8) JIS Channel fillet welded to the upper flange, lower flange, and web of the modified MC shape

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and MPT inspection (dry method) on the bottom flange of modified MC shape fillet welded to the rocker bearing plate around the (70) mm radius cut into the bottom flange at (8) locations on east saddle rocker bearing plate E2-E1. On this date, the QA Inspector observed that the total time spent in performing the MPT inspection on the fillet welds was (2) hours for (1) NIS QC NDT Inspector. The QA Inspector also observed that (1) NIS Certified Weld Inspector (CWI) was present for (1) hour during the MPT Inspection to verify the completion and the test results.

VT and MT Inspection in-process on Rocker Bearing Plate Assembly: East Saddle E2-E1

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. R. Kumagai (#132) performing the visual test (VT) inspection and magnetic particle test (MPT) inspection of the fillet welds on the bearing blocks and the miscellaneous channel (MC) shapes welded to the rocker bearing plate for east saddle E2-E1. The VT inspection was in accordance with AWS D1.5-2002 Section 3.6 and Section 6.26.1. The MPT inspection was in accordance with Section 6.7.6.1 and to the acceptance-rejection criteria in Section 6.26.2.2. The QA Inspector observed that the VT and MPT inspection was in-process at the end of the QA Inspectors' shift.

Foundry:

NDT Operation in-process on Saddle: East Saddle E2-E1 (cast saddle)

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) personnel Mr. H. Kohama (#86) performing the magnetic particle test (MPT) inspection (wet method) on east saddle E2-E1 on the as finished surface of level (1) areas as shown on the plans on the outside of the trough section and of level (3) areas as shown on the plans on the rib sections of the east saddle. The NIS QC NDT Inspector verified the lifting force of the yoke and the sensitivity of the yoke as per ASTM E709 prior to the start of the MPT inspection. The QA Inspector also verified that the bath concentration of the non-fluorescent particles were between (1.2 and 2.4) mL per (100) mL as per ASTM E709 Section 20.6.3 and the manufacturer recommendations. The actual settling volume was recorded at (1.6) mL as measured using a centrifuge tube with a (1.5) mL stem and after allowing the particles to settle for approximately (30) minutes prior to taking the settling volume measurement. The QA Inspector observed that the MPT inspection performed by Mr. H. Kohama was in-process at the end of the QA Inspectors' shift.

Engineering Communication Sheet (ECS) in-process on Cast Saddle: West Jacking Saddle

The QA Inspector observed that Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. N. Osawa (#340) completed the minor repair excavation map on the west jacking saddle. The JSW Representative Mr. Hideaki Kon informed the QA Inspector that NIS QC Inspection personnel are in-process in preparing the engineering communication sheet (ECS) for the minor repair excavations prior to the start of the repair weld operation. The excavated areas were previously inspected by NIS QC NDT Inspector Mr. A. Seino (#82) by the liquid penetrant test (PT) method and the magnetic particle test (MPT) method to ensure the complete removal of the rejectable indications at various locations on the west jacking saddle.

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

### **Summary of Conversations:**

No significant conversations were reported on this date.

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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 at (510) 385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Peterson, Art	Quality Assurance Inspector
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<b>Reviewed By:</b>	Guest, Kittric	QA Reviewer
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