

**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-008052**Date Inspected:** 29-Jul-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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:**

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

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT personnel Mr. M. Sato (#81) performing the ultrasonic test (UT) inspection on complete-joint penetration groove weld joint no's. 9Y-12U-1, 9Y-12U-2, and 9Y-12U-3 after the intermediate post weld stress relief heat treatment operation on the rib plate (built-up section) to base plate of tower saddle segment T1-3. The QA Inspector observed that the ultrasonic inspection was in accordance with AWS D1.5-2002 section 6.13 and to the UT acceptance-rejection criteria- compressive stress in Table 6.4. The QA Inspector observed that the UT inspection was in process at the end of the QA Inspectors' shift.

NDT Operation in process on Saddle: West Deviation Saddle Segment W2-W2

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT Inspector Mr. R. Kumagai (#132) performing the magnetic particle test (MPT) inspection (dry method) of the partial-joint penetration (PJP) groove welds prior to the final post weld heat treatment (PWHT) stress relief operation on the rib plate to stem plate; stem plate to base plate; and the rib plate to base plate of west deviation saddle segment W2-W2. The QA Inspector observed that the MPT inspection was in process at the end of the QA Inspectors' shift.

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# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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Weld Operation in process on Saddle: West Deviation Saddle Segment W2-W3

The QA Inspector observed the partial-joint penetration (PJP) groove (fill pass) weld operation on the rib plate (built-up section) to rib (cast section) of west deviation saddle segment W2-W3. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the PJP groove weld operation that the minimum preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. R. Iizuka (06-2643) on weld joint no. W3Y-4U, Mr. T. Kawakami (08-5079) on weld joint no. W3Y-7U, and Mr. M. Kashiwada (08-2008) on weld joint no. W3Y-6U were in compliance with WPS SJ-3011-7 per the FCAW-G process in the (1G) flat position using (1.6) mm diameter TM95 electrode. The QA Inspector observed that the PJP groove (fill pass) weld operation was in process at the end of the QA Inspectors' shift.

Foundry:

Blast Cleaning Operation pending on Saddle: East Saddle E2-E1 (cast saddle)

The QA Inspector observed that east saddle E2-E1 is waiting to be blast cleaned after the post weld heat treatment (PWHT) operation was completed on the east saddle. The JSW Representative Mr. Hideaki Kon informed the QA Inspector that the blast cleaning operation is scheduled for July 30th, 2009.

NDT Operation completed on Saddle: East Saddle E2-W1 (cast saddle)

The QA Inspector observed that Nikko Inspection Services (NIS) QC NDT personnel Mr. H. Kohama (#86) completed the magnetic particle test (MPT) inspection (wet method) on the as finished surface of the base plate of east saddle E2-W1 after the final post weld heat treatment operation. On this date, the QA Inspector observed that no other work was performed on east saddle E2-W1.

NDT Operation in process on Saddle: West Jacking Saddle (cast saddle)

The QA Inspector observed Nikko Inspection Services (NIS) QC NDT personnel Mr. A. Seino (#82) performing the magnetic particle test (MPT) inspection (wet method) on the as finished surface of the exterior of the trough and rib sections of the west jacking 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 (2.1) 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. A Seino on the west jacking saddle was in process at the end of the QA Inspectors' shift.

Unless otherwise noted, 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.

## 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.

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# WELDING INSPECTION REPORT

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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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