

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 #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009465**Date Inspected:** 30-Sep-2009**Project Name:** SAS Superstructure**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Contractor:** Japan Steel Works**OSM Arrival Time:** 700**OSM Departure Time:** 1630**Location:** Muroran, Japan**CWI Name:** T. Imai**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:** 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 Shop at Japan Steel Works.

Fabrication Shop #4:

Final NDT Operation in-process on Saddle: Tower Saddle Segment T1-1

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) personnel Mr. N. Osawa (#340) and Mr. R. Kumagai (#132) performing the magnetic particle test (MPT) inspection by the (wet method) on tower saddle segment T1-1 on the final machined surface of the level (1) area as shown on the plans of the interior of the troughs Tower Saddle T1-1. The NIS QC NDT Inspectors verified the lifting force of their yokes and the sensitivity of their yokes 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 (2.0) 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. N. Osawa and Mr. R. Kumagai were in-process at the end of the QA Inspectors' shift.

The QA Inspector also performed MPT verification inspection (wet method) on the final machined interior surfaces of the north and south troughs on tower saddle T1-1. The QA Inspector 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

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Section 20.6.3 and the manufacturer's recommendations. The actual settling volume was recorded at (2.0) 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 performed a performance check of the MPT Yoke by verifying the alternating current (AC) lifting force of the yoke using a (10) lb steel plate with the yoke pole spacing at (100) mm and verifying the sensitivity of the yoke using a "pie" field indicator prior to the start of the MPT verification inspection. See Magnetic Particle Test Inspection Report TL-6028 dated September 30th, 2009 for details of equipment used and locations of inspection on tower saddle T1-1.

Preparation in-process for Trial Assembly: West Deviation Saddle Segments on East Side

The QA Inspector observed that the JSW personnel have built staging around west deviation saddle segments W2-E1 and W2-E2 in preparation of placing the saddle assembly and saddle segment control marks on the segments prior to performing the survey when measuring with the 3D Laser system during the trial assembly of the west deviation saddle segments on the east side. The QA Inspector also observed that the JSW personnel were preparing the floor space in Fabrication Shop #4 so a check of the flatness of the floor can be performed. The QA Inspector observed that the preparation for the trial assembly of west deviation saddle segments W2-E1, W2-E2, and W2-E3 were in-process at the end of the QA Inspectors' shift.

Foundry Shop:

Repair Weld Operation in-process on Saddle: West Jacking Saddle

The QA Inspector observed the repair weld operation on excavated areas on the exterior of the west jacking saddle. The QA Inspector observed Quality Control (QC) Representative Mr. T. Imai verify prior to and during the weld operation that the minimum preheat temperature of 150 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. Y. Kabutamori (06-8000) were in compliance with WPS SJ-3026-2 per the SMAW process in the (1G) flat position using (4.0 and 5.0) mm diameter E10016-G electrode. The QA Inspector observed that the repair weld operation was in process at the end of the QA Inspectors' shift.

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.

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.

Inspected By:	Peterson, Art	Quality Assurance Inspector
Reviewed By:	Guest, Kittric	QA Reviewer
