

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-007956**Date Inspected:** 21-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**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 at Japan Steel Works.

Fabrication Shop #4:

Blast Cleaning Operation in process on Saddle: Tower Saddle Segment T1-2

The QA Inspector observed that the blast cleaning operation is in process on tower saddle T1-2 on this date. The next operation on tower saddle segment T1-2 will be the final NDT inspection.

Re-positioning of Saddle: Tower Saddle Segment T1-3

The QA Inspector observed that JSW personnel are in the process of re-positioning tower saddle segment T1-3 in preparation to change the location on the rib plate to base plate complete-joint penetration (CJP) and partial-joint penetration (PJP) double bevel groove tee-joint weld operation. The change in location of the weld operation allows for the JSW welding personnel to be able to weld in a more ideal position. The QA Inspector observed that the re-positioning of the tower saddle segment was in process at the end of the QA Inspectors' shift.

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

The QA Inspector observed JSW personnel performing the grinding operation around the radius of the cope holes- (weld access) after the partial-joint penetration (PJP) groove weld operation was completed on the stem plate (built-up section) to stem (cast section) of west deviation saddle segment W2-W2. The QA Inspector also observed JSW personnel performing the grinding operation on the cover passes of the PJP groove welds to a visual

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acceptable profile prior to Quality Control (QC) Inspector Mr. Chung Fu Kuan performing a visual inspection for acceptance in accordance with the approved shop drawings and AWS D1.5-2002 Section 3.6. The QA Inspector observed that the grinding operation was in process on west deviation saddle segment W2-W2 at the end of the QA Inspectors' shift.

Installation of Preheat Tubes in process on Saddle: West Deviation Saddle Segment W2-W3

The QA Inspector observed JSW welding personnel performing the installation of preheat tubes within the full length of the trough in preparation for the start of the partial-joint penetration (PJP) double bevel groove butt-joint weld operation of joining the built-up section of the saddle to the cast section of the saddle on west deviation saddle segment W2-W3. The QA Inspector observed that the installation of the preheat tubes were in process at the end of the QA Inspectors' shift.

Foundry:

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

The QA Inspector observed the repair weld operation on excavated areas on the exterior of east saddle E2-E1. 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. A. Takenami (06-8001) were in compliance with WPS SJ-3026-4 per the SMAW process in the flat position using (5.0) mm diameter E9016-G electrode. The QA Inspector observed that the repair weld operation was in process at the end of the QA Inspectors' shift.

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

The QA Inspector observed Nikko Inspection Services (NIS) QC NDT personnel Mr. H. Kohama (#86) performing the magnetic particle test (MPT) inspection (wet method) on east saddle E2-W1 on the as finished surface after the final post weld heat treatment operation of level (1) areas on the interior and exterior of the trough section and level (3) areas 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 (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. H. Kohama was in process at the end of the QA Inspectors' shift.

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

The QA Inspector observed that JSW personnel were performing the grinding operation on the shaped areas on the outside of the trough section and on the rib sections where previously JSW personnel removed the excess cast material by the scarfing operation- (air-carbon-arc method) on the rough casting of the west jacking saddle. The purpose of the grinding operation is to profile the areas to a smooth finish and subsequently for the visual inspection and the NDT operation. The QA Inspector observed that the grinding operation was in process on the west jacking saddle 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.

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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.

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