

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-006137**Date Inspected:** 03-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**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 Foundry at Japan Steel Works.

Fabrication Shop #4

Welding Operation of middle stiffener plates to (cast section) of Tower Saddle: Tower Saddle Segment T1-1
The QA Inspector observed the partial-joint penetration groove weld operation on middle stiffener plates 7ST-14 and 7ST-15 welded to the tower saddle (cast section) of tower saddle segment T1-1 were completed on this date. The QA Inspector observed that JSW personnel were not performing any other work on this date on the tower saddle segment.

Machining of completed segment: West Deviation Saddle Segment W2-E2

The QA Inspector observed that west deviation saddle segment W2-E2 is located in Machine Shop #2 to have the final machining performed. The QA Inspector observed that the machining was in-process on this date.

West Deviation Saddle Segment W2-E1 (After Final PWHT, Final Machining, and Final Dimensional)

The QA Inspector observed that no work was performed on this date.

Grinding Operation on bevels of rib plates and stem plate (steel section): West Deviation Saddle Segment W2-E3

The QA Inspector observed JSW personnel performing the grinding operation on the rib plates and stem plate's prepared edges (faces of double bevel grooves) of west deviation saddle W2-E3 (steel section). These areas are

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

being prepared by grinding due to the limited accessibility to be machined. The JSW personnel are grinding to the scribe lines (layout marks and punch marks of the final dimension of the groove area) prior to the fit-up operation of west deviation saddle W2-E3 (cast section). The QA Inspector observed that the grinding operation was in process at the end of the QA Inspectors' shift. The west deviation saddle (cast section) has been completed and once the grinding operation is completed on the (steel section) and the surfaces are profiled and NDT inspection is completed, then the (cast section) will be fit to the (steel section).

Machining of (steel section): West Deviation Saddle Segment W2-W1 (After PWHT)

The QA Inspector observed that west deviation saddle segment W2-W1 is located in Machine Shop #4 to have the root face dimension machined (partial-joint penetration double groove welds) on the stem and ribs to meet the fit-up tolerances for mill to bear surfaces per the approved shop drawings and the contract specifications. The QA Inspector observed that the machining was completed and no other work was performed on this date.

Welding operation on rib (steel section) to rib (cast section): Tower Saddle Segment T1-2

The QA Inspector observed JSW personnel performing the preheating operation prior to the start of the weld operation on partial-joint penetration double groove weld of the rib (steel section) to rib (cast section) at weld locations 8Y9U, 8Y10U, and 8Y11U of tower saddle segment T1-2. The QA Inspector observed that the preheat temperature of 110 degrees Celsius is required at these weld locations. The QA Inspector observed that the preheat operation was in process at the end of the QA Inspectors' shift.

Fit-up operation of (steel section): West Deviation Saddle Segment W2-W2

The QA Inspector observed that JSW personnel were preparing to weld a stay plate-(temporary attachment) to the excess material on the rib plates for the purpose of maintaining the dimensions and for distortion control between the ribs of west deviation saddle segment W2-W2. The QA Inspector observed that the preparation of the placement and welding of the stay plate was in process at the end of the QA Inspectors' shift.

Buttering operation on (cast section): Tower Saddle Segment T1-3

The QA Inspector observed the buttering weld operation on the square edge of the ribs (cast section) on tower saddle (cast section) T1-3. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the welding operation that the preheat temperature of 150 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Kawagishi (08-5026) on rib (cast section) 9Y-5U-2, Mr. H. Narita (08-5092) on rib (cast section) 9Y-9U, and Mr. D. Hirakawa (08-3566) on rib (cast section) 9Y-11 were in compliance with WPS SJ-3012-1-1 per the SMAW process in the flat and horizontal positions. The QA Inspector observed that the buttering weld operation was in process at the end of the QA Inspectors' shift. The tower saddle (steel section) has been completed and once the buttering operation is completed on the (cast section) and the surfaces are profiled and NDT inspection is completed, then the (steel section) will be fit to the (cast section).

Foundry Shop:

NDT of (cast section): West Deviation Saddle Segment W2-W2

The QA Inspector observed NIS NDT personnel Mr. H. Kohama performing the magnetic particle test (MPT) inspection (wet method) on west deviation saddle W2-W2 on the as finished surface (cast section) level 1 area on the outside of the saddle. The NIS NDT Inspector verified the lifting force and the sensitivity of the yoke prior to the start of the MPT inspection. The QA Inspector observed that the MPT inspection was in process at the end of the QA Inspectors' shift.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Shaping of (cast section): East Saddle E2-E1

The QA Inspector observed that no work was performed on this date regarding the shaping (scarfing) operation- (removal of cast material on the rough casting) on the outside of east saddle E2-E1 to profile the saddle to the proper dimension and radius.

Grinding operation of (cast section): East Saddle E2-W1

The QA Inspector observed that (4) JSW personnel were performing the grinding operation on the outside of the east saddle E2-W1 (cast section) where the shaping operation was previously completed. The JSW personnel were performing the grinding operation to profile the shaped areas on the saddle to a smooth finish prior to the NDT operation. The QA Inspector observed that the grinding operation was in process at the end of the QA Inspectors' shift.

Moving (cast section) to Machine shop #4: West Deviation Saddle Segment W2-W1

The QA Inspector observed that west deviation saddle W2-W1 (cast section) was moved from the foundry to machine shop #4 to be machined prior to the fit-up operation to the west deviation saddle W2-W1 (steel section). The QA Inspector observed that no machining was performed on this date.

Heat Treatment of weld repairs on (cast section): West Deviation Saddle Segment W2-W3

The QA Inspector was informed by JSW representative Mr. Hideaki Kon that the post weld heat treatment (stress relief) operation was being performed of the minor and major weld repairs on west deviation saddle W2-W3 (cast section) on this date.

Moving (cast section) to Machine shop #4: West Jacking Saddle

The QA Inspector was informed by JSW representative Mr. Hideaki Kon that the west jacking saddle was moved from JSW's' laydown yard to machine shop #4 to start the rough machining. The QA Inspector observed that no machining was performed on this date.

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

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
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Reviewed By:	Lanz, Joe	QA Reviewer
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