

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-006237**Date Inspected:** 16-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**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 shop at Japan Steel Works.

Fabrication Shop #4

Machining Operation on Saddle: Tower Saddle Segment T1-1 (cast welded to steel section)

The QA Inspector observed that tower saddle segment T1-1 is located in Machine Shop #4 in preparation for the segment to be final machined. The QA Inspector observed that no work was performed on this date.

Machining Operation of Saddle: West Deviation Saddle Segment W2-E2 (cast welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E2 is located in Machine Shop #2. The QA Inspector observed that no machining was performed on this date.

Machining Operation of Saddle: West Deviation Saddle Segment W2-E1 (cast welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E1 is located in Machine Shop #2 to have the lifting lugs machined /milled off. The QA Inspector observed that no work was performed on this date.

Storage of Saddle: Tower Saddle Segment T1-3 (steel section)

The QA Inspector observed that tower saddle segment T1-3 (steel section) is located in Fabrication Shop #4 for storage until tower saddle segment T1-3 (cast section) is ready for the fit-up operation. The QA Inspector observed that no work was performed on this date.

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Storage of Saddle: West Deviation Saddle Segment W2-E3 (steel section)

The QA Inspector observed that west deviation saddle segment W2-E3 (steel section) is located in Fabrication Shop #4 for storage until west deviation saddle segment W2-E3 (cast section) is ready for the fit-up operation. The QA Inspector observed that no work was performed on this date.

Thermal Cutting Operation on Saddle: West Deviation Saddle Segment W2-W1 (steel section)

The QA Inspector observed that JSW personnel were performing the thermal cutting operation on west deviation saddle segment W2-W1 (steel section). The JSW personnel were thermally cutting the bevels to final dimension of the double bevel groove on the rib plates and stem plate. Afterwards, the JSW personnel were performing the grinding operation on the thermal cut surfaces to remove any loose scale and to grind to bright metal. The QA Inspector observed that the thermal cutting and grinding operation was in process at the end of the QA Inspectors' shift.

Re-positioning of Saddle: Tower Saddle Segment T1-2 (cast being welded to steel section)

The QA Inspector observed that JSW personnel were repositioning tower saddle segment T1-2 in preparation to start the welding operation on the stem (cast section) to stem (steel section) partial-joint penetration double bevel groove butt joint welds. The QA Inspector observed that the re-positioning of the saddle was in process at the end of the QA Inspectors' shift.

Welding Operation on Saddle: West Deviation Saddle Segment W2-W2 (steel section)

The QA Inspector observed the partial-joint penetration groove weld operation on the rib plate to stem plate portion of west deviation saddle W2-W2. The QA Inspector observed QC Inspector Mr. Chung Fu Kuan verify prior to the start of the welding operation that the preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. Y. Nakano (08-2011) on rib plate W2-Y-15V- (plate 5-13 side), Mr. K. Nakasato (91-2247) on rib plate W2-Y-5V- (plate 5-4 side), and Mr. T. Kawakami (08-5079) on rib plate W2-Y-6V (both sides) were in compliance with WPS SJ-3011-3 per the SMAW process in the (3G) vertical position using 9018M electrode. The QA Inspector observed that the partial-joint penetration groove weld operation was in process at the end of the QA Inspectors' shift.

Welding Operation on Saddle: West Deviation Saddle Segment W2-E3 (cast section)

The QA Inspector observed that the welding of the lifting lugs per the FCAW process in the (3G) vertical position to one end of the trough was completed on the build-up area section of weld metal- (weld surface layers). The QA Inspector observed that the (cast section) is now ready for the fit-up operation to the (steel section) and no work was performed on this date.

Machining Operation of Saddle: Tower Saddle Segment T1-3 (cast section)

The QA Inspector was informed by JSW representative Mr. Hideaki Kon that tower saddle segment T1-3 is located in Machine Shop #4 to have the square edges of the groove on the ribs and stems milled to the dimensional tolerances. Previously, JSW welding personnel performed the weld surfacing (buttering operation) on the square edges of the rib and stem of the saddle (cast section) per the SMAW process using E7016 electrode. The QA Inspector observed that the machining operation has not started on this date.

Foundry Shop:

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

The QA Inspector observed that west deviation saddle segment W2-W2 (cast section) is located in the Foundry Shop for storage until west deviation saddle segment W2-W2 (steel section) is ready for the fit-up operation. The QA Inspector observed that no work was performed on this date.

Grinding Operation on Saddle: East Saddle E2-E1

The QA Inspector observed that JSW were performing the grinding operation of the shaped areas on the outside of the trough section and on the rib sections where the removal of cast material- (scarfing operation by the air-carbon-arc method) on the rough casting was previously performed on east saddle E2-E1. The purpose of the grinding operation is profile the areas to a smooth finish for the NDT operation. The QA Inspector observed that the grinding operation was in process at the end of the QA Inspectors' shift.

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

The QA Inspector observed that NIS NDT Personnel prepared east saddle E2-W1 for magnetic particle testing (MPT) inspection by (laying out) marking (300 x 300) mm grid lines on the inside and outside of the trough and on the rib sections for the purpose of tracking and identification. The QA Inspector observed that the layout operation was completed and the MPT inspection (wet method) will be started on April 17th, 2009.

Storage of Saddle: West Deviation Saddle Segment W2-W1 (cast section)

The QA Inspector observed that west deviation saddle segment W2-W1 (cast section) is located in the storage laydown yard prior to being moved into fabrication shop #4. The QA Inspector observed that no work was performed on the saddle (cast section) on this date.

Grinding Operation on Saddle: West Deviation Saddle Segment W2-W3 (cast section)

The QA Inspector observed JSW personnel completed the grinding operation on both sides of the saddle on the areas that had both major and minor weld repairs performed previously on the trough, stem and rib sections of west deviation saddle W2-W3 (cast section). The QA Inspector observed that no work was performed on this date.

Machining Operation of Saddle: West Jacking Saddle (cast section)

The QA Inspector observed that the west jacking saddle (cast section) is located in Machine Shop #4 to have the rough machining of the base plate, inside of trough, and the end sections of the west jacking saddle. The QA Inspector observed that the machining operation was being performed inside of the trough section of the west jacking saddle on this date.

Machine Shop #2

NDT Operation on Rockers: East Saddles

The QA Inspector witnessed the ultrasonic test (UT) longitudinal- (straight) beam inspection on (1) rocker forging section. The UT inspection was performed by NIS NDT Inspector Mr. T. Sagakuchi as per JSW UT Procedure SJ-3166. The longitudinal beam transducer was oscillating at frequencies of up to 2.25 MHZ. The forging section heat number was (B09D13-8-3). A total of (6) rocker section forgings were ready for UT inspection and JSW previously completed the UT inspection on April 15th, 2009. The QA Inspector was accompanied by JSW representatives Mr. Hideaki Kon and Mr. Kazunori Sato during my presence in Machine Shop #2. The UT inspection was performed in (2) crossing directions to ensure complete coverage and the technique and results of the UT inspection appeared to be in general compliance with JSW UT Procedure SJ-3166 and the contract

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specifications. The (6) rocker section forgings will have the machining operation performed at a later 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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