

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-007957**Date Inspected:** 22-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 T1-2

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT Personnel Mr. R. Kumagai (#132) and Mr. K. Kobayashi (#141) performing the magnetic particle test (MPT) inspection (dry method) by the yoke method on the complete-joint penetration (CJP) and partial-joint penetration (PJP) groove welds on the rib (cast section) to rib plate (steel section) and the stem (cast section) to stem plate (steel section) of tower saddle segment T1-2 after the final post weld heat treatment (PWHT) operation. The QA Inspector observed that the MPT inspection was in process at the end of the QA Inspectors' shift.

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

The QA Inspector observed the partial-joint penetration (PJP) double bevel groove (fill pass) weld operation on the stem plate to the base plate of tower saddle T1-3. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the PJP weld operation that the minimum preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. D. Kito (08-5175) on weld joint no. 9S-3L (in between plate 9-5 and plate 9-8), Mr. J. Yaegashi (07-2941) on weld joint no. 9S-3L (in between plate 9-8 and plate 9-11), Mr. Y. Watanabe (73-3873) on weld joint no. 9S-3L (in between plate 9-11 and plate 9-12), Mr. M. Inoue (92-5683) on weld joint no. 9S-2L (in between plate 9-5 and plate 9-7) and Mr. T.

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Watanabe (08-5169) on weld joint no. 9S-2L (in between plate 9-10 and plate 9-12) were in compliance with WPS SJ-3012-3 per the FCAW-G process in the (1G) flat position using (1.6) mm diameter TM95 electrode. The QA Inspector observed that the PJP double bevel groove weld operation 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 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.

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

The QA Inspector observed the partial-joint penetration (PJP) double bevel groove (fill pass) weld operation on the stem plate (steel section) to stem (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 weld operation that the minimum preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. K. Kobayashi (08-5023) on weld joint no. W3S-2U and Mr. M. Kato (08-5018) on weld joint no. W3S-2U were in compliance with WPS SJ-3011-5 per the SMAW process in the (2G) horizontal position using (4.8) mm diameter E9018 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:

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) Quality Control (QC) NDT personnel Mr. H. Kohama (#86) and Mr. A. Seino (#82) 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 of the trough section 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 (2.3) 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

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observed that the MPT inspection performed by Mr. H. Kohama and Mr. A. Seino was in process at the end of the QA Inspectors' shift.

Grinding Operation completed on Saddle: West Jacking Saddle (cast saddle)

The QA Inspector observed that the JSW personnel completed 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 JSW Representative Mr. Hideaki Kon informed the QA Inspector that the next operation will be the layout of the grid lines on the west jacking saddle by marking (300 mm 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 for the NDT operations liquid penetrant test (PT), magnetic particle test (MPT), and ultrasonic test (UT) methods. On this date, the QA Inspector observed that no work was performed on the west jacking saddle.

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.

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