

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 70.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-009985
Date Inspected: 02-Nov-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:

Storage of Saddles: West Deviation Saddle Segments - W2-E1, W2-E2, and W2-E3

The QA Inspector observed that west deviation saddle segments W2-E1, W2-E2, and W2-E3 are being stored in Fabrication Shop #4 until the paint quality work plan (PQWP) is approved. Afterwards the west deviation saddle segments will be moved into the paint shop to start the blast cleaning and metalizing operation on the interior of the troughs.

Final NDT Operation completed on Saddle: West Deviation Saddle Segment W2-W1

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. N. Osawa (#340) completed the magnetic particle test (MPT) inspection by the (wet method) on west deviation saddle segment W2-W1 on the final machined surfaces of the level (3) area as shown on the plans of the base plate.

Foundry Shop:

NDT Operation in-process on Saddle: West Jacking Saddle (before final machining)

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. H. Kohama (#86) performing the magnetic particle test (MPT) inspection by the (wet

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

method) on the interior of the trough and exterior of the trough in between the rib sections of the west jacking saddle at locations where the major and minor weld repairs were previously performed. Prior to the start of the MPT inspection, NIS QC NDT Inspector Mr. H. Kohama verified the lifting force and the sensitivity of the yoke as per ASTM E709. 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 Section 20.6.3 and the manufacturer's recommendations. The actual settling volume was recorded at (2.2) mL as measured using a centrifuge tube with a (1.5) mL stem 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.

Mechanical Test Lab:

Witness mechanical tests after final stress relieved condition on West Jacking Saddle

The QA Inspector witnessed the mechanical test (tensile) of heat no. 08W277-1 for the west jacking saddle. The (1) test specimen was prepared and tested after the final stress relieved condition. The structural steel casting material grade was UNS no. 415 and the tensile test specimen was 12.5 mm in diameter with a gage length of (50) mm. The QA Inspector observed that the results of the yield strength, tensile strength, elongation, and reduction of area on the tensile test specimen tested were in compliance with the table listed under the castings section of the contract special provisions.

The QA Inspector also witnessed the mechanical test (Charpy-V-Notch) of heat no. 08W277-1 for the west jacking saddle. The structural steel casting material grade was UNS no. 415 and the (3) test specimens were tested after the final stress relieved condition and were dimensionally prepared within the tolerances in accordance with ASTM E-23 Figure 2 Izod (Cantilever-Beam) Impact Test Specimen, Type D. The (3) specimens were held at a temperature of (0) degrees Celsius for 10 minutes and temperature of the liquid bath was held to within plus or minus (1) degree Celsius. The (3) specimens were removed from the liquid bath and the test was conducted within the (5) second time frame as per the requirements in ASTM E-23. The QA Inspector observed that the results of the individual impact tests and the average of the (3) specimens along with the lateral expansion measured of each specimen were in compliance with the table listed under the castings section of the contract special provisions. Afterwards, the QA Inspector reviewed the test report for accuracy and completeness and assigned Caltrans Lot number B273-017-09.

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
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Reviewed By:	Edmondson, Fred	QA Reviewer
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