DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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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-005101
Date Inspected: 25-Dec-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Japan Steel Works

OSM Arrival Time: 830
OSM Departure Time: 1830
Location: Muroran, Japan

CWI Name: Chung Kuan

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ 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:

Steel Structure Welding Shop:

T1-3 Tower Saddle Steel Structure: Caltrans Quality Assurance Inspector (QAI) representative observed three Japan Steel Works (JSW) welders perform Flux Cored Arc Welding (FCAW) process on rib plate welds # 9Y-5V (3-2), 9Y-5V (3-3) and 9Y-12V (3-2) of T1-3 tower saddle steel structure. The three welders started welding from 70% complete and continued to 100%. The weld joint design used partial joint penetration double-V groove weld (PJP). The filler metal and shield gas used for FCAW welding is Hoballoy wire TM-95K2, 1.6 diameter made by Hobart Brothers, USA with 100% C02. The parameters used for FCAW welding of assemblies were conducted in accordance with Caltrans approved WPS #SJ-3012-3. The FCAW welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA observation, the FCAW welding operation appeared to be in general compliance with requirements of AWS D1.5 2002 and Caltrans contract documents.

W2E3 West Deviation Saddle Steel Structure: Caltrans QA inspector observed two JSW welders in process fit up and SMAW temporary tack welding on the W2E3 west deviation saddle steel structure portion. Total two rib plates numbered 3-10 and 3-11 have been fit up and tack weld attached to stem plate numbered 3-2. The fit up and tack welding process and parameters have been monitored and recorded by CWI inspector Mr. Chung Kuan. Based on Caltrans QA Inspector observation, no discrepancies were noted.

T1-3 Tower Saddle Steel Structure: Caltrans QA Inspector observed NIS NDT technicians perform dry MT testing on the both end of rib plate of T1-3 tower saddle steel structure. Two rib plates numbered 9Y-6V (3-2) and 9Y-9V (3-2). The yoke utilized appeared to be model UM –T1. The magnetic field was verified with a field indicating gauge (pie gauge). Visible dry red magnetic particles were utilized and made by Magnotron, Japan.

During MT testing, two liner indications were discovered on the surface. The size of indication has been marked by NDT technicians for additional grinding repair after test. Two liner indications have been removed and re-tested and MT test accepted by NIS NDT technicians. Caltrans QAI also used the same MT method verified the repair surface.

Casting Shop:
W2W3 West Deviation Saddle Casing Portion: Caltrans QAI observed two welders perform air carbon arc gouging process on exterior rough surface of rib side for west deviation saddle W2W3 after rough machining. The gouging areas are not uniform surface and not able to use machining. The gouging process is continuing to December 28, 2008. Based on Caltrans QA Inspector observation, no discrepancies were noted.

Test Lab:
Witness two mechanical tests for W2E2 West Deviation Saddle Casting portion: Caltrans QA Inspector representative, Mr. Wai Pau and SMR Mr. Jay Dorst traveled to Nikko Inspection Service (NIS) test lab, to witness two mechanical tests for W2E2 west deviation saddle casing material approval. The mechanical test includes one casting metal tension test and three charpy impact tests. The entire mechanical tests operations were monitored and accepted by the NIS foramen Mr. Hideo Domon. Based on Caltrans QA observation, the various mechanical tests appeared to be in general compliance with requirement of Caltrans Special Provision and ASME IX 2006 Section. A Caltrans Lot# B240-001-08 was assigned on the results of these two mechanical tests for tracking proposes.

Summary of Conversations:
As noted within the report.

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:	Pau,Wai	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer