

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-005094**Date Inspected:** 17-Dec-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Chung 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:**

Steel Structure Welding Shop:

Tower Saddle Steel Structure T1-3: Caltrans Quality Assurance Inspector (QAI) representative Mr. Wai Pau, traveled to Japan Steel Works (JSW) Muroran plant to observe two welders perform Flux Cored Arc Welding (FCAW) process on rib #9Y-6V and #9Y-7V of T1-3 tower saddle steel structure. The weld number 9Y-6V (3-2) and 9Y-7V (3-3). The two welders started welding from 70% weld metal to 100%. The material used for grillage was reported by CWI Mr. Chung Kuan as ASTM 709 Gr 345 plate having a thickness measurement of 120mm. The weld joint design used was a butt joint, double-V groove partial penetration groove weld (PJP). The filler metal and shield gas used for FCAW welding is Hoballoy wire TM-95K2, 1.6 diameter with 100% C02 made by Hobart Brothers, USA. 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 inspectors 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.

Tower Saddle casting T1-1: Caltrans QAI observed one welder perform FCAW process on temporary reinforcement support which use prevents distortion during welding. The filler metal and shield gas used for FCAW welding is Hoballoy wire TM-95K2, 1.6 diameter with 100% C02 made by Hobart Brothers, USA. The FCAW welding process and parameters have been monitored and recorded by CWI inspectors 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.

Casting Shop:

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West Deviation Saddle W2E3 and Tower Saddle T1-3: Caltrans QA observed Nikko Inspection Service (NIS) NDT level II technicians performed straight beam UT test on rib side of West Deviation Saddle W2E3 and rib side of Tower Saddle T1-3 (See photo). The metrical of saddle segment is casing Gr. 415 (ASTM A148M G. 620-415) with has a thickness form 150mm to 500mm and both saddle test surface have been Magnetic Particle Test (MT) prior UT test. First, a 500mm range was calibrated on a Krautkramer Branson USM 3 “A scan” tube display instrument, a straight beam method has be applied to test UT test and the search unit is a 24mm x 2 MHz single transducer applied a source of compression waves, and penetrated into segment W2E3 and T1-3 for discontinuity scanning. The distance and sensitivity of straight beam is calibrated with the 3.0mm and 6.4mm diameter FBH reference block and an additional test reference blocks made by same casting metrical. The liquid glycerin is used to couple the search unit to the test surface. Based on Caltrans observation, no discrepancies were noted. The UT test for both saddle will be continue to 2nd shift. The JSW Mr. Kon informed to Caltrans QAI that UT test will schedule to Monday, Dec-22-08.



Summary of Conversations:

As Noted within the report above.

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