

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-008646**Date Inspected:** 25-Aug-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR

CWI Name:	William Buck		
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:** Hinge-K Components**Summary of Items Observed:**

Summary of Items Observed: On this date, Caltrans Quality Assurance Inspector (QA) Clete Henke was present at Oregon Iron Works, Inc. (OIW) in Clackamas, OR for observation of fabrication of the Hinge K Pipe Beams and related activities including in process welding and OIW Quality Control (QC) visual and nondestructive testing. The following observations were recorded:

OIW Fabrication Shop-Bay 3

Hinge-K Pipe Beam Base Assembly 102A-2:

a111-2 forging to a110-2 base plate

The QA Inspector was notified upon arrival by day shift QA Inspector Sean Vance that OIW personnel had initiated base metal repair at two locations on a111-2 forging identified in Critical weld Repair report 8 (CWR-008). CWR-008 consists of two areas (weld joints W1-147 & W1-138/139) on the forging where broken tacks were identified and removed and subsequently found to contain linear indications in the base metal. The areas had been previously excavated and prepared for repair welding in accordance with the approved CWR report.

MT had been performed by QC and QA at the excavated and prepared locations and found to be free of relevant indications (ref. TL-6028-8/19/09). Mr. Vance indicated that the work was underway at shift turnover and in fact repair at weld joint W1-147 was substantially complete. The QA Inspector subsequently randomly observed as OIW welder Phuong Huynh (WID H4) performed Flux Core Arc Welding (FCAW) at excavation located at weld joint W1-138/139. Mr. Huynh was observed welding in the vertical (3G) position in accordance with approved OIW Welding Procedure Specification (WPS) 3048. Continuous preheat was maintained utilizing a torch. The QA Inspector observed OIW QC Inspector Bill Buck regularly monitoring and recording the in process FCAW parameters. Post-weld heat treatment (PWHT) was subsequently applied at affected area at temperatures between

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230° C and 315° C for two hours per approved CWR report. The QA Inspector intermittently monitored post-heat utilizing the appropriate temp-stick. CWR-008 appeared to be completed in general compliance with relevant contract documents.

Hinge-K Pipe Beam Base Assembly 102A-1:

a111-1 forging to a110-1 base plate

The QA Inspector intermittently monitored OIW welder Phuong Huynh (WID H4) as he engaged in grinding at interior weld terminations in an attempt to achieve a 2:1 transition at these locations. Welder H4 was engaged in this activity for the remainder of the shift after completion of CWR-008.

OIW Fabrication Shop-Bay 6

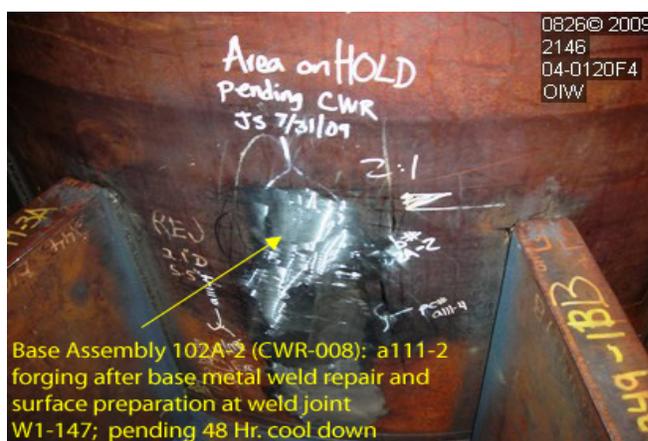
Hinge-K Pipe Beam Fuse Assembly 120A-7:

a124-5 to a124-15

The QA Inspector intermittently observed OIW qualified welder Vincent Vu (WID V7) during in-process welding of Soudotape 309L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-7. The weld joint is identified as 309L 1st Layer. Mr. Savanh was observed welding in the flat position utilizing automatic electro slag welding (ESW) overlay process with a .5mm x 60mm Soudotape 309L stainless electrode, filler metal brand Soudotape class EQ309L automatic. An OIW helper was observed assisting welder V7 during ESW activity. The QA Inspector observed OIW QC Inspector Bill Buck regularly monitoring and recording the in process ESW parameters. The QA Inspector also intermittently observed in process welding parameters and determined that the ESW parameters (1200 amps, 25.7 volts, 267mm/min travel speed) and minimum preheat temperature of 225° F appeared to be in general compliance with the contract requirements and approved OIW Welding Procedure Specification (WPS) 7003.

Material, Equipment, and Labor Tracking:

The QA Inspector performed verification of personnel involved with this project and equipment in use. The QA Inspector accounted for 3 OIW production personnel and 1 Quality Control Inspector present on this date.



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Summary of Conversations:

As noted in the body of 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 Mohammad Fatemi (916) 813-3677 , who represents the Office of Structural Materials for your project.

Inspected By:	Henke,Clete	Quality Assurance Inspector
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Reviewed By:	Adame,Joe	QA Reviewer
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