

**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-008882**Date Inspected:** 10-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 330**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Steve Barnett, Jon Nickolich**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:** 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-4:

a111-4 forging to a110-4 base plate

The QA Inspector intermittently monitored OIW welders Yuriy Bannikov (WID B61) and Phuong Huynh (WID H4) on swing shift and Harold Baldonado (WID B33) on graveyard shift during in progress Submerged Arc Welding (SAW) at weld joints W1-93, W1-120 & W1-118. The referenced connections join various radial stiffeners to a107 gussets. The QA Inspector observed as OIW QC Inspector Steve Barnett performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root pass at weld joints referenced above. Mr. Barnett stated that he had located no rejectable indications. The QA Inspector subsequently performed 100% VT & 50% MT verification at the noted location W1-118 finding the root passes to be in general compliance with contract documents. Please reference TL-6028 report for this date for details. The QA Inspector intermittently observed as welders B61, H4 & B33 deposited SAW passes in the horizontal (2F) position in accordance with approved welding procedure 4020. The QA Inspector noted the OIW welders were maintaining continuous preheat utilizing a torch. Referenced connections W1-93 & W1-120 were completed during the swing shift and W1-118 was completed during graveyard shift. The QA Inspector observed OIW QC Inspectors Steve Barnett and Jon Nikolich regularly monitoring and recording the in process SAW parameters during swing and graveyard shift

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respectively. The QA Inspector also intermittently observed in process welding parameters and determined that the SAW parameters and minimum preheat/interpass temperature appeared to be in general compliance with the contract requirements -- (W1-118: 35 volts, 565 amperes, 432mm/min travel speed ).

OIW Fabrication Shop-Bay 6

Hinge-K Pipe Beam Fuse Assembly 120A-5:

a124-2 to a124-14

The QA Inspector intermittently observed OIW qualified welder Bounheune Savanh (WID S74) during in-process welding of Soudotape 309L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-5. 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 S74 during ESW activity. The QA Inspector observed OIW QC Inspector Steve Barnett 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 (1225 amps, 25.5 volts, 269mm/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. ESW activity was paused at about 2300 hours prior to shift turnover and was not resumed during graveyard shift.

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 4 OIW production personnel and 2 Quality Control Inspectors present on this date during swing shift. The QA Inspector accounted for 1 OIW production personnel and 1 Quality Control Inspector present on this date during graveyard shift.



## 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.

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<b>Inspected By:</b>	Henke,Clete	Quality Assurance Inspector
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<b>Reviewed By:</b>	Adame,Joe	QA Reviewer
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