

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-007409**Date Inspected:** 25-Jun-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:	Steve Barnett		
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 Fuse Sub-Assembly 120A-7:**

a125 stiffener ring to a124-16 Fuse

The QA Inspector intermittently monitored OIW welders Mikhail Bannikov (WID B28) and Phuong Huynh (WID H4) during in progress Submerged Arc Welding (SAW) at weld joints WM3-03 & WM3-05 respectively. The referenced connections join a125 stiffener rings to a124-16 Fuse Section. Welders B28 & H4 deposited SAW root, fill and cover passes in the flat (1G) position in accordance with approved welding procedure 4020 at both locations. OIW QC Inspector Steve Barnett was observed performing Magnetic Particle Testing (MT) at the root pass on weld ID WM3-05 referenced above. Mr. Barnett stated that no rejectable indications were located. The QA Inspector noted the OIW welders were maintaining continuous preheat utilizing two torches. The QA Inspector observed OIW QC Inspector Steve Barnett regularly monitoring and recording the in process SAW parameters. 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 -- (35 volts, 585 amperes, 432mm/min travel speed).

Hinge-K Pipe Beam Fuse Assembly 120A-2:

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a124-3 to a124-11

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

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

a124-14 to a124-2

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

Hinge-K Pipe Beam Fuse Sub-Assembly 120A-6:

A124-9 to a124-1

The assembly referenced above had been returned from A.G. Machine Works Inc. in Boring, OR where it had undergone rough machining. The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

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

a111-1 forging to a110-4 base plate

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

Hinge-K Pipe Beam Base Assembly 102A-4:

a111-4 forging to a110-4 base plate

The QA Inspector intermittently monitored OIW welders Bui Liem (WID B10) and Vincent Vu (WID V7) during in progress Submerged Arc Welding (SAW) at weld joints W1-127 & W1-82 and W1-148 & W1-150 respectively.

The referenced connections join e108, d108 and d107 stiffeners to a111-4 forging and a106 stiffener. The QA Inspector observed as OIW QC Inspector Steve Barnett performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root passes at weld W1-127, W1-148 and W1-150. Mr. Barnett stated that he had located no rejectable indications. The QA Inspector subsequently performed 100% VT & 50% MT verification at the locations noted above 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 B10 & V7 continued to deposit SAW fill and cover passes in the flat (1G) position in accordance with approved welding procedures 4016 and 4020. The QA Inspector noted the OIW welders were maintaining continuous preheat utilizing two torches. The QA Inspector observed OIW QC Inspector Steve Barnett regularly monitoring and recording the in process SAW parameters. 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 -- (W1-148 - Root: 26 volts, 420 amperes, 381mm/min travel speed/ Fill: 35 volts, 585 amperes, 432mm/min travel speed).

Hinge-K Pipe Beam Fuse Assembly 120A-3:

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

OIW Fabrication Shop-Bay 6

Hinge-K Pipe Beam Fuse Assembly 120A-4:

a124-13 to a124-4

The QA Inspector intermittently observed OIW qualified welder Bounheune Savanh (WID S74) during in-process welding of Soudotape 316L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-4. The weld joint is identified as 316L 3rd layer. Mr. Savanh was observed welding in the flat position utilizing automatic

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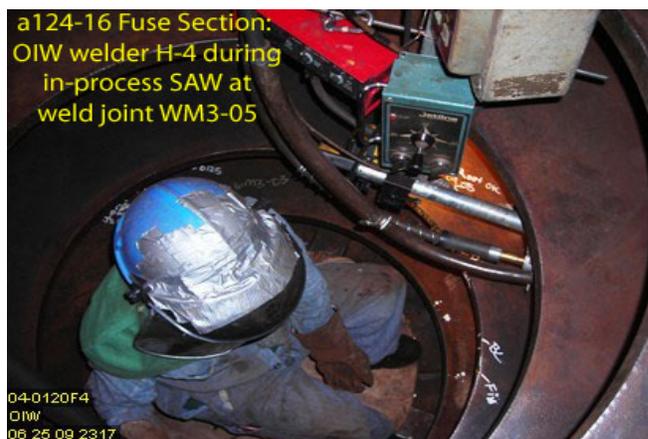
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electro slag welding (ESW) overlay process with a .5mm x 60mm Soudotape 316L stainless electrode, filler metal brand Soudotape class EQ316L automatic. An OIW helper was observed assisting welder V7 during ESW activity.

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 (1200 amps, 25.2 volts, 254mm/min travel speed) and minimum preheat temperature of 70° 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 6 OIW production personnel and 1 Quality Control Inspector present on this date.



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

Reviewed By: Adame,Joe

QA Reviewer