

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-007681**Date Inspected:** 08-Jul-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**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-8:

a125 stiffener ring to a124-8 Fuse

The QA Inspector intermittently monitored OIW welders Tim O' Brien (WID O6) and Yuriy Bannikov (WID B61) during in progress Submerged Arc Welding (SAW) at weld joints WM3-13 (day shift) and WM3-15 (swing shift) respectively. The referenced connections join a125 stiffener rings to a124-8 Fuse Section. Welders O6 & B61 deposited SAW root fill and cover passes in the flat (1G) position in accordance with approved welding procedure 4020 at the location referenced above. The QA Inspector noted the OIW welders maintaining continuous preheat utilizing two torches. An OIW helper was observed assisting welders O6 & B61 during SAW process. The QA Inspector observed OIW QC Inspectors Jose Salazar and Steve Barnett regularly monitoring and recording the in process SAW parameters during day and swing shift 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 -- (35 volts, 585 amperes, 457mm/min travel speed). Weld joint WM3-13 was completed during day shift and WM3-15 was set up and initiated at the onset of swing shift. The QA Inspector observed as OIW QC Inspector Jose Salazar performed Magnetic particle Testing (MT) and Visual Inspection (VT) of the completed root pass at weld

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WM3-13. Mr. Salazar stated that he had located no rejectable indications. WM3-15 was still in-process at 1530 hrs when the QA Inspector departed.

Hinge-K Pipe Beam Fuse Assembly 120A-2:
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 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-7:
A124-5 to a124-15

The QA Inspector spoke with OIW Lead QC Inspector Mike Gregson and was informed that OIW QC had performed fit-up inspection at circumferential complete joint penetration (CJP) weld joint designated WM3-18, finding the joint to be acceptable per contract documents. The QA Inspector subsequently performed VT at the above referenced joint and found that fit-up tolerances appeared to be in general compliance with the contract requirements.

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 John Tellone (WID T23) on day shift and Bui Liem (WID B10) on swing shift during in progress Submerged Arc Welding (SAW) at weld joints W1-50, W1-54, W1-58 & W1-62(T23) and W1-20(B10). The referenced connections join a107 and b106 stiffeners. The QA Inspector intermittently observed as welders T23 & B10 deposited SAW passes in the horizontal (2F) position in accordance with approved welding procedure. The QA Inspector noted the OIW welders were maintaining continuous preheat utilizing a torch. Referenced connections W1-50, W1-54, W1-58 & W1-62 were completed during the day shift and W1-20 was in-process at 1530 hrs when the QA Inspector departed. The QA Inspector observed OIW QC Inspectors Jose Salazar and Steve Barnett regularly monitoring and recording the in process SAW parameters during day and swing shift 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 -- (W1-50: 36.4 volts, 585 amperes, 420mm/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.

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OIW Fabrication Shop-Bay 6

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

a124-13 to a124-4

The QA Inspector intermittently observed as OIW welder Igor Frolov (WID F17) ground high spots at 316L 3rd layer which had been previously identified as low and covered with an additional electro slag welding (ESW) pass during the day shift. No welding was performed during the day shift. The QA Inspector intermittently observed OIW qualified welder Vincent Vu (WID V7) during in-process pick-up welding of Soudotape 316L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-4 at the onset of swing shift. The weld joint is identified as 316L 3rd layer. Mr. Vu was observed setting up at low spots on completed 316L 3rd layer and subsequently welding the excavated low spots in the flat position utilizing automatic electro slag welding (ESW) overlay process with a .5mm x 60mm Soudotape 316L stainless electrode, filler metal brand Soudotape class EQ316L automatic. Welder V7 was assisted by an OIW helper 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 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. Pick-up welding was underway at 1530 hrs when the QA Inspector departed.

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 1 Quality Control Inspector present on this date during day shift and 5 OIW production personnel and 1 Quality Control Inspector present during swing 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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Inspected By:	Henke,Clete	Quality Assurance Inspector
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Reviewed By:	Adame,Joe	QA Reviewer
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