

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-008786**Date Inspected:** 01-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-1:**

a111-1 forging to a110-1 base plate

The QA Inspector intermittently monitored OIW welder Phuong Huynh (WID H4) during swing shift 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 duration of the shift. This activity was continued during graveyard shift by OIW welder Harold Baldonado (WID B33) and was still underway when the QA Inspector departed at about 0330 hours.

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

a111-4 forging to a110-4 base plate

During conversation with QC Inspector Steve Barnett, the QA Inspector was informed that QC Magnetic Particle (MT) and Visual (VT) testing was substantially complete at machined exterior weld terminations on 102A-4. Mr. Barnett indicated that no rejectable indications had been located. The QA Inspector subsequently performed 100% Magnetic Particle (MT) and Visual (VT) verification at machined weld terminations on Partial Joint Penetration (PJP) and fillet connections at 20 random locations in excess of the 10% QA verification requirement. MT and

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

VT verification was completed at various times during the shift at the following joints: W1-19, W1-20, W1-21, W1-22, W1-23, W1-24, W1-25, W1-26, W1-27, W1-28, W1-29, W1-30, W1-31, W1-33, W1-114, W1-115, W1-116, W1-117, W1-118 and W1-119. Please reference TL-6028 report for this date for details. The QA Inspector noted and pointed out one location where a weld transition had been over-excavated during transition grinding. Mr. Barnett marked the area and indicated that he would follow through with the appropriate documentation. The QA Inspector further noted that CWR-007 was still pending on 102A-4 and Mr. Barnett stated that he and OIW QC were aware of the CWR status. With the above noted exceptions, Non-Destructive Testing (NDT) prior to installation of cap plate is substantially complete on base assembly 102A-4.

## 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 316L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-7. The weld joint is identified as 316L 3rd Layer. Mr. Vu was observed welding 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. 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, 267mm/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. 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 3 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.

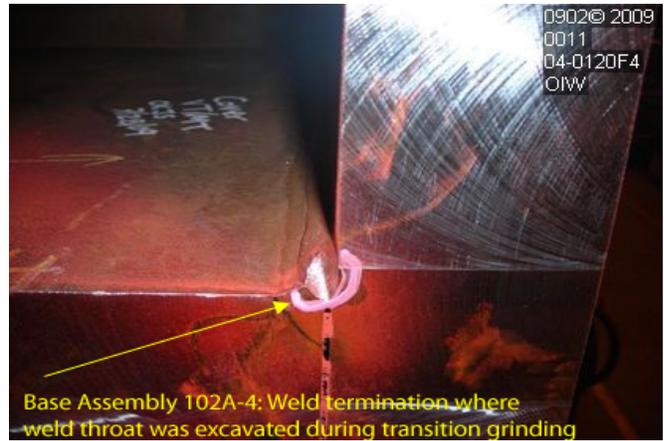
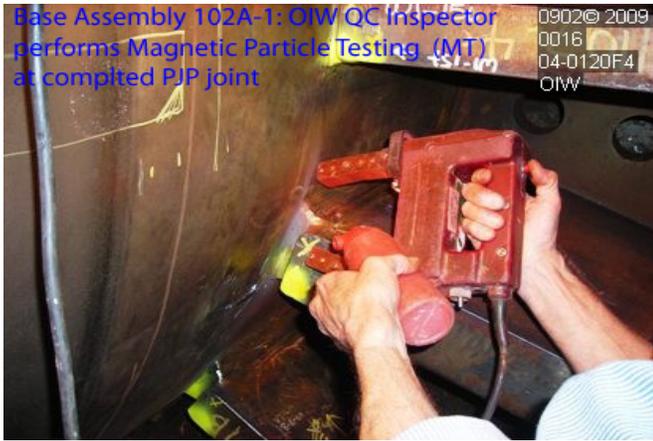


---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---



## 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.

---

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

---