FOR CONTRACT NO.: 04-4A4104

INFORMATION HANDOUT

TEST RESULTS FOR BEAM LOCATED AT CCM YARD IN BENICIA

EXISTING BEAM SURVEY FOR CONTRACT 04-4A4101 AS OF 5-4-2007

ROUTE: 04-Ala-580-46.5/46.9

PROVIDED PER ADDENDUM NO. 1 DATED MAY 4, 2007

May 4, 2007

PROJECT INFORMATION

04-4A1004

Reconstruct Bridge – Distribution Structure

Bridge Number 33-0061L

SUBJECT

Test Results for Beam Located at CCM Yard in Benicia

DISCUSSION

Specimens were removed from a two foot section of one of the beams shown in Attachment A per ASTM A709 Specification to determine tensile, charpy and steel chemistry. Two tensile 0.500 round specimens were machined from the flange, charpy test specimens were prepared from the flange and from the center of the K-line. These last charpy specimens are not a requirement of the ASTM A709 specification.

Tests reports are presented in Attachment B. In summary, the material meets ASTM A709 grade 36 specifications. The average tensile properties are: yield strength = 46063 ksi, tesile strength = 69125 ksi, and % elongation = 36.6%. The charpy test from the flange average 100.66 ft-lb and the K-line average 34.33 ksi. The chemical analysis meets both the grade 36 and 50 specifications.

CONCLUSION

Material meets ASTM A709 grade 36 specifications.

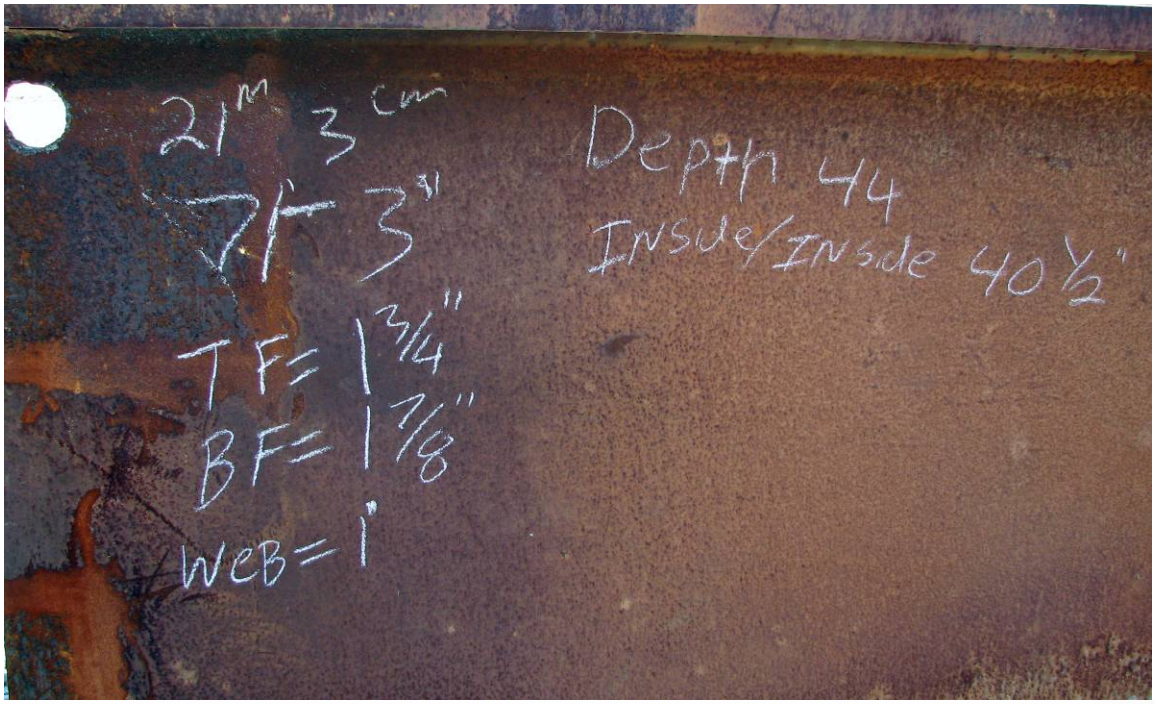
Rosme Aguilar, Chief

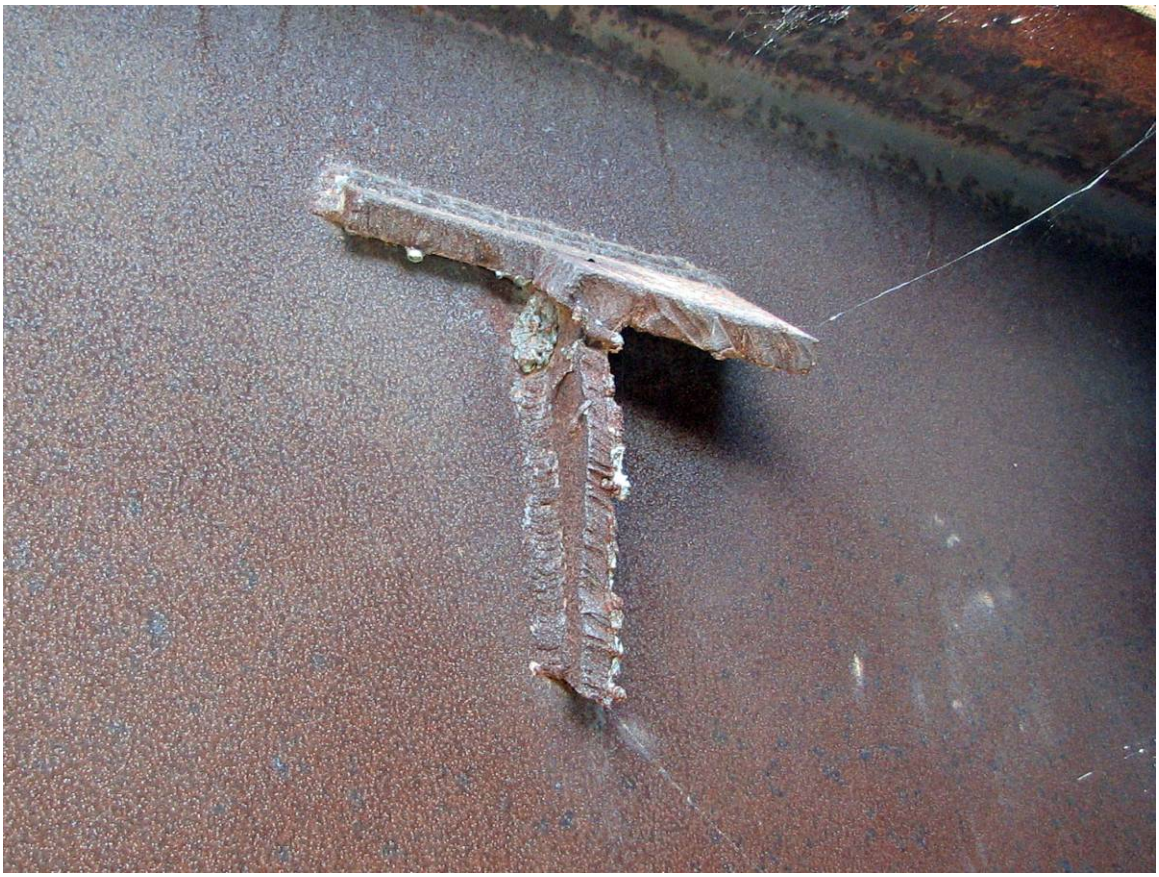
Structural Materials Testing Lab

Attachment A

Steel Beams Located at CCM's Yard in Benicia, CA

Proposed Beams Located at CCM Yard in Benicia, CA.





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Attachment B

Test Results of CCM Steel Beam

.505 Tensile Test

Department of Transportation
Structural Materials Testing Laboratory
UTM 60 kip
.505

SM Number = 07-0536-1

Sample	Heat Number	Diameter (in)	Area (in^2)	Stress at Offset (psi)	Tensile Strength (psi)	Elongation in 4 x d (%)	Tested By
CCM-A	CCM	0.498	0.1948	46606	69240	36.4	BBergh
CCM-B	CCM	0.499	0.1956	45520	69010	36.8	BBergh
Average:		0.4985	0.1952	46063	69125	36.6	

Meets ASTM A709 Gr 36 specifications.

not 709 Grade 50

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STRUCTURAL MATERIALS TESTING LABORATORY
FORM TM-6 (REV. 5/05)

REPORT OF CHARPY IMPACT TESTS

APPROVED FOR USE BY SMTL
QUALITY MANAGER: [illegible]

Charpy Machine Verification, 0° - 170°		SM No. 07-0536-1	Date Received 5/3/2007
	Readings		
0° Reading		TL-0101 No. N/A	Contract No 04-4A4104
Tolerance (170°+/-1°)			580/880 Repair
Material Type:		Temperature Req: 40 Degree	Lot No. N/A
		Min. Energy Req: 15 ft lbs	

SAMPLE	HEAT No.	SPECIMEN ORIENTATION	TEST TEMPERATURE	DEFLECTION ANGLE	ENERGY Ft-lb	AVERAGE Ft-lb	VALUE EXCEEDS THE MACHINE CAPACITY * YES	NO	
1	~~B4H589~~			N/A					
2		LONG	40 °F			0.0			
3									
1	C1				100	100.66		✓	ASTM LONGITUDINAL SPECIMENS
2	C2	LONG	40 °F		102	~~0.0~~		✓	
3	C3				100			✓	
1									
2		LONG	40 °F			0.0			
3									
1	KT 1				34	34.33		✓	TRANSVERSAL TO K-LINE
2	KT 2	LONG	40 °F		36	~~0.0~~		✓	
3	KT 3				33			✓	
1									
2		LONG	40 °F			0.0			
3									
1									
2		LONG	40 °F			0.0			
3									

* The value recorded exceeds the machine's testing capacity when the test specimen does not pass between the machine anvils (I.e. stops the pendulum). ASTM E 23

Date Tested 5/3/2007

Lab Technician Glen

<barry_marcks@dot.ca.gov>
05/03/2007 02:06 PM

To <rosme_aguilar@dot.ca.gov>
cc
bcc
Subject Caltrans Chemistry Lab notification of sample test results

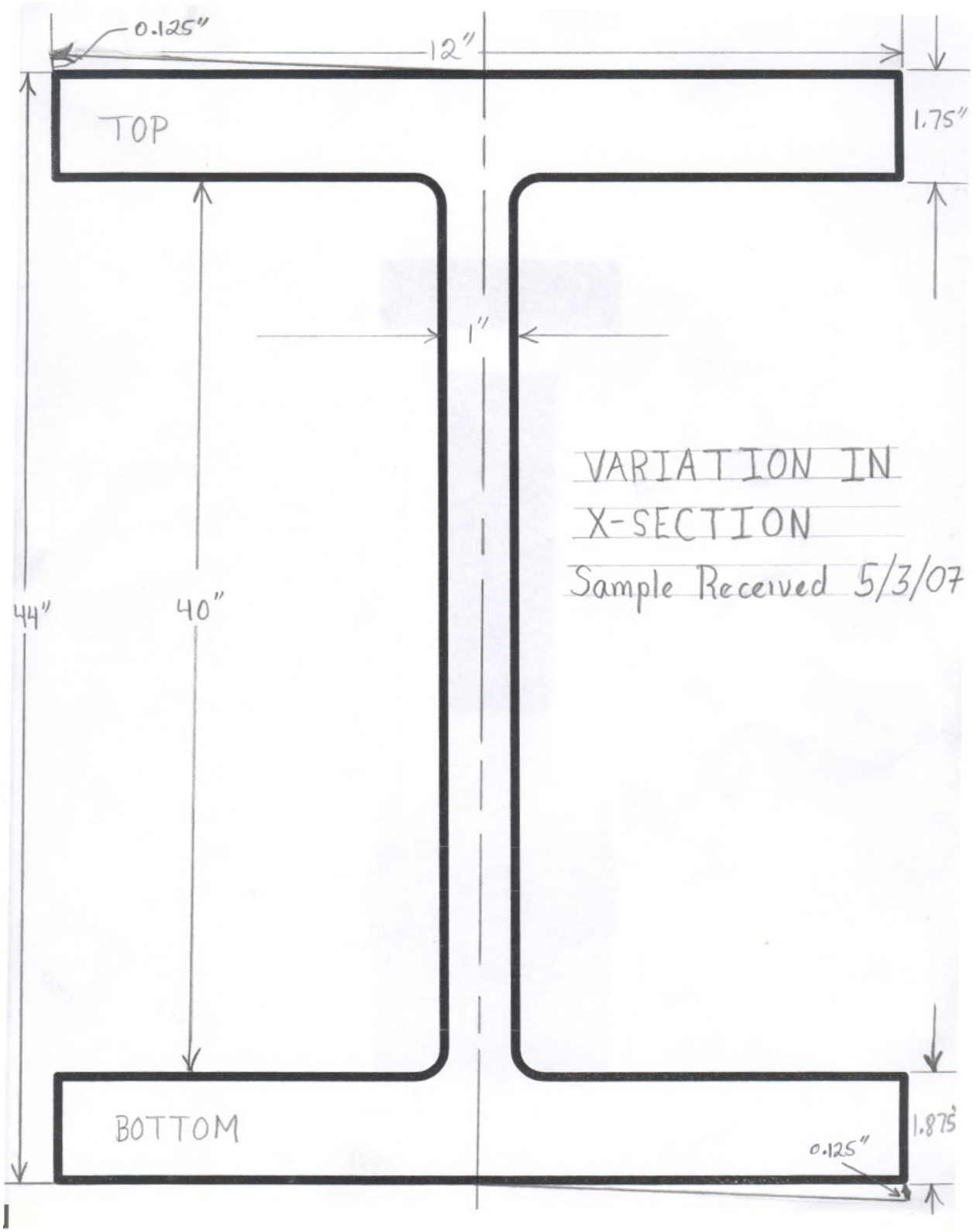
The STEEL sample described below has received a determination of TESTING COMPLETED.

Project No.: 59-912680
Manufacturer: STRUCTURAL MATERIALS
External ID No.: CCM
Chemistry Lab Sample No.: C070689
10641 Content, carbon: 0.13 Percent
10641 Content, Si: 0.21 Percent
10641 Content, Mn: 0.78 Percent
10641 Content, P: 0.022 Percent
10641 Content, S: 0.011 Percent
10641 Content, Cr: 0.064 Percent
10641 Content, Mo: 0.009 Percent
10641 Content, Al: 0.035 Percent
10641 Content, Co: 0.021 Percent
10641 Content, Copper: 0.079 Percent
10641 Content, Nb: <0.0004 Percent
10641 Content, Ti: 0.002 Percent
10641 Content, V: 0.012 Percent
10641 Content, lead: <0.002 Percent
10641 Content, Boron: 0.002 Percent
10641 Content, Fe: 98.5 Percent
10641 Content, Ni: 0.11 Percent

If you have any questions, please contact Barry Marcks at 916-227-7918.

Thank you.

Chemistry complies with A709 GRADES 36 and 50.


0.125"
12"
TOP
1.75"
1"
VARIATION IN
X-SECTION
Sample Received 5/3/07
44"
40"
BOTTOM
1.875
0.125"

EXISTING BEAM SURVEY FOR CONTRACT 04-4A4101 AS OF 5-4-2007

Company	Company Contact and Phone Number	Date Contacted	Product Description	Statement	Determination	Location
Caltrans Owned Girders		5/2/2007	Used Steel Girders		Inadequate Cross Section	San Jose, CA
CC Meyers		5/2/2007	Used Steel Girders	Griders with depth 44", length 71'-3", TF 1 3/4", BF 1 7/8", W 1"	Check samples tested by TRANSLAB meet GRADE 36	Benecia, CA
Precision Crane	John Elliff (707) 546-6900	5/3/2007	Used Steel Girders	7' depth, 12 each girders, 120' long. Previously used or left overs from the Old Russian River Project.	Too large	Healdsberg, CA
Triad Metals	Howie 800 355 1140	5/4/2007	Steel Plates	Supplier is developing list of steel that meets project requirements.	No Girders, only plate.	Pittsburg, Pennsylvania
Tross Jacking & Drayage	Jana and Matt Tross (510) 715-4201	5/3/2007	Used Steel Girders	32 3/4" depth, 5 ea at 87', 3 ea at 60' girders. TF 1 1/8", BF 1 3/4". Previously used for 680/24 Temporary Flyover. All have 6" sweep.	Too small	
Unknown	Pete Binkley 707 545 4837	5/4/2007	Used Steel Girders	Originally reported 15 each 50' long 10' wide panels from GG Bridge redecking project 20 years ago. Each pane is supported by two 24" I-beams underneath.	Called left message.	