

From: [Ablson, Maha](#)
To: [Peppers, Nicki](#);
cc: [Molohon, Rob](#); [Caufman, Kyle](#);
[WSDOT Seattle Inspection Office](#);
Subject: 008078 RAM#12 Telescoping Arm Assembly
Date: Friday, February 18, 2011 2:57:03 PM
Attachments: [8078 RAM12 Telescoping Arm Assembly.pdf](#)

Nicki,
The processed electronic RAM is attached.

Maha Ablson

*RAM Engineer
WSDOT, Materials Lab
Office: 360.709.5403
Fax: 360.709.5588
mahaab@wsdot.wa.gov*

From: Peppers, Nicki [mailto:peppersn@columbiarivercrossing.com]
Sent: Thursday, February 17, 2011 8:08 AM
To: Ablson, Maha
Subject: RAM-0012

Good Morning,

Please find attached RAM no. 12.

Thanks,
Nicki

*** eSafel scanned this email for malicious content ***
*** IMPORTANT: Do not open attachments from unrecognized senders ***
*** eSafe scanned this email for malicious content ***
*** IMPORTANT: Do not open attachments from unrecognized senders ***



Washington State
Department of Transportation

RAM-0012

Request for Approval of Material

| | | | | | | |
|------------|---|-----------|---------------|--------------|------------------|--------|
| Contract | 8078 | FA Number | SR | Interstate 5 | Date | 2/8/11 |
| Section | I-5 Columbia River Bridge (WA 0.3 to OR MP 308.0) | | | County | WA and OR states | |
| Contractor | American Construction Company, Inc. | | Subcontractor | | | |

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.
For assistance in completing, see Instructions and Example

For WSDOT Use Only
RAM # 12

| Bid Item No. | Material or Product/Type | Name and Location of Fabricator, Manufacturer or Pit Number | Specification Reference | PE/QPL Code | Hdq./QPL Code |
|--------------|--|--|-------------------------------|-------------|---------------|
| 3.04.01 | Telescoping Arm Assembly | Rainier Welding, Inc. 19020 NE 84th Street Redmond, WA 98053 | Special Provisions Page 98 | 7 | 5 |
| | Only for Unconfined Bubble Ring System | | | | |
| 3.04.02 | Telescoping Arm Guide | | | | |
| 3.04.03 | Telescoping Arm | | | | |
| 3.04.04 | Hinge Plate | | | | |

| | | | |
|--------------------------------------|---------|--------------------------|---------|
| Project Engineer | Date | State Materials Engineer | Date |
| <i>Ricki Peppers for Frank Green</i> | 2/17/11 | Steve Hughes | 2-17-11 |

Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

- Acceptance Criteria: Acceptance based upon 'Satisfactory' Test Report for samples of materials to be incorporated into project.
- Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
- Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved Yes No
- Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
- Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved:
- Approval Withheld: Submit samples for preliminary evaluation.
- Approval Withheld:
- Miscellaneous Acceptance Criteria.

Remarks: **Notify and forward approved shop drawings to the Fabrication Inspection office.**

* cc: American Construction, Peppers

Project Engineer Distribution

- Contractor
 Region Operations Engineer
 Fabrication Inspection
- Region Materials
 State Materials Lab
 M/S 47365

State Materials Engineer Distribution

- General File
 Other
- Signing Inspection



Abnahmeprüfzeugnis 3.1 (EN 10204)
Inspection certificate – mill certificate

Zertifiziert nach / certified to ISO 9001, ISO/TS 16949, EN/AS 9100, ISO 14001, NADCAP

Nr.: 85336910 03 / 6

Rev. 0
 Seite / page: 1 von / of 2
 Datum / date: 2010 07 20

*RAI/NICK WELDING
 PO# 2860-2
 SALE / B 762582
 DATE: 2-2-11
 C BOB
 WELDED*

A02:32 05805

| | |
|--|--|
| Auftraggeber / customer: Empire Resources Inc. 1 Parker Plaza FORT LEE NJ 07024 USA Warenempfänger / consignee: Empire Resources, INC 6901 Quad Avenue BALTIMORE MD 21237-2403 USA Endkunde, Bestell-Nr. / Your cust., ord. no.: | Bestell Nr. / order no.: R133210/ER-4348-P Datum / date: 2010 04 27 |
| | Auftragsbest. Nr. / order confirm. no.: 612989 Datum / date: 2010 04 28 |
| | Lieferschein Nr. / delivery note: 85336910 Datum / date: 2010 07 20 |
| | Akkreditiv Nr. / letter of credit no.: |

| | |
|---|---|
| Produkt/product Form / form: Plate, stretched Werkstoff / material: 6061 Zustand / temper: T651 Dim. / dim: [Inch]: 0,500x48,50x144,50 Kundenartikel-Nr / customer article no.: | Bedingungen/terms Techn. Lieferbedingungen / techn. spec.: AMS-QQ-A-250/11, 08.1997 ASTM B 209 - 07 Material meets also AMS 4027N, 07.2000, but not marked ASTM B 594 - 06 ANSI H35.2-2006 ASME SB 209, 2007 Sondervorschrift / special terms: |
|---|---|

| AB-Pos. / ord.-item. | BNr/Los/Tellos / Lot/No./Part | Guss Nr. / cast no. | Werkstoff / material | Kollo / packng. | Gewicht netto / weight net | Stk. / pcs. |
|----------------------|-------------------------------|---------------------|----------------------|-----------------|----------------------------|-------------|
| 06 | 44738/04/00 | 80/0066747/0 | 6061.1 | 6129890046 | 4283,51 lbs | 12 |
| 06 | 44738/05/00 | 80/0067078/0 | 6061.1 | 6129890122 | 1761,464 lbs | 5 |
| 06 | 44738/06/00 | 80/0067078/0 | 6061.1 | 6129890125 | 1748,236 lbs | 5 |

| Chemische Zusammensetzung / chemical composition: [%] Gewichtanteile / Weight proportion | | | | | | | | | | | |
|--|------------------|------|------|------|------|------|------|-------|------|------|--|
| Guss Nr. / cast no. | AMAG designation | Si | Pb | Cu | Mn | Mg | Cr | Ni | Zn | Ti | |
| 80/0066747/0 | 6061.1 | | | | | | | | | | |
| | actual | 0,70 | 0,43 | 0,21 | 0,15 | 0,82 | 0,17 | 0,01 | 0,06 | 0,03 | |
| 80/0067078/0 | 6061.1 | | | | | | | | | | |
| | actual | 0,65 | 0,45 | 0,23 | 0,02 | 0,86 | 0,17 | <0,01 | 0,13 | 0,02 | |

10077756



Abnahmeprüfzeugnis 3.1 (EN 10204)
Inspection certificate - mill certificate

Nr.: 85336910 03 / 6

Rev. 0
 Seite / page: 2 von / of 2
 Datum / date: 2010 07 20

Handwritten: 2011

Zertifiziert nach / certified to ISO 9001, ISO/TS 16949, ENAS 9100, ISO 14001, NADCAP

| Zugversuch / Tensile test | | | | | | |
|---------------------------|----------------|--------------------|--|----------|-------------|--------|
| BNr/Los Lot/No. | Zustand temper | Richtung direction | | Rm [ksi] | Rp0.2 [ksi] | A2 [%] |
| 44738/04 | T651 | LT | | 46,7 | 43,1 | 13 |
| 44738/04 | T651 | LT | | 47,0 | 43,2 | 13 |
| 44738/04 | T651 | LT | | 48,8 | 42,9 | 13 |
| 44738/04 | T651 | LT | | 46,8 | 43,1 | 13 |
| 44738/04 | T651 | LT | | 46,8 | 42,9 | 14 |
| 44738/05 | T651 | LT | | 46,7 | 43,4 | 13 |
| 44738/05 | T651 | LT | | 46,7 | 43,2 | 13 |
| 44738/05 | T651 | LT | | 47,4 | 43,2 | 11 |
| 44738/05 | T651 | LT | | 47,1 | 43,8 | 11 |
| 44738/05 | T651 | LT | | 47,0 | 43,5 | 13 |
| 44738/06 | T651 | LT | | 47,0 | 43,7 | 13 |
| 44738/06 | T651 | LT | | 46,7 | 43,2 | 13 |
| 44738/06 | T651 | LT | | 47,4 | 44,1 | 13 |
| 44738/06 | T651 | LT | | 47,3 | 43,8 | 13 |
| 44738/06 | T651 | LT | | 47,3 | 43,2 | 12 |

Es wird bestätigt, dass die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellung entspricht.
 We hereby certify that the material described above has been tested and complies with the terms of the order contract.

| | |
|---|---------------------|
| Werkssachverständiger / factory specialist | E-Mail / e-mail |
| Josef Klämpfer | j.klaempfer@amag.at |

Herstellortland: Österreich / goods origin: The goods are of Austrian origin.
 Maschinell erstellt - Gültig ohne Unterschrift / Automated - valid without being signed.

CERTIFIED INSPECTION REPORT

A10:58 050760

Alcoa Inc.

PITTSBURGH, PA DAVENPORT WORKS

We hereby certify that the material covered by this certificate has been inspected with, and it has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material meet the composition limits and that the mechanical properties shown on the basis of this sheet are correct.

John P. Young
 Director of Manufacturing Operations Works
 Quality Assurance Manager

1195221 Ship Date 0 B.L. No. Invoice No. Alcoa No. Item Page 1
 2010-12-28 5519258 00000 1000253275-1 DS-53275-1
 P.O. No./Govt Contract No. Customer Alcoa Item
 10077445 Lath: 1 ALASKAN COPPER & BRASS G041107416R06

Ship To: ALASKAN COPPER & BRASS COMPANIES, I
 ALASKAN COPPER AND BRASS
 27402 72ND AVE S
 KENT, WA 98032

Item Description
 0.25 IN TX (+.014 -0.000) X 48.5 IN W (+.375 -0.000) X 144.5 IN LN (+.5 -0.0) CAT X 134100 (N) A/T 5061-
 T651 TYPE 200 PROUGHT TOOLING PLATE MILL
 FINISH: AMS4027 REV N ANS1H5.2 REV 2009 EXC_NRK_ASMZ-S9-
 209 REV 10 EXC_NRK_ASMZ209 REV 07
 ((MARKED)) KRAFT PAPER INTERLEAVED
 NEX GROSS SKID WGT: 4500 LB QUAN TOL +/-
 40 % COR D164055 REV 06 CUST REQ 10-12-27 *** W/R 11-01-01 ***

*PRINTED WORKING *
 DATE: 28 APR 2011
 TIME: 2:52:01
 USER: 792501
 @ 505 WERB104
 (200)
 9/1/03*

| Item | Package Ticket | Lot | Weight | Quantity | UOM | Inspector | Clock Numbers |
|------|----------------|--------|--------|----------|-----|-----------|---------------|
| 1 | 265577 | 421752 | 355 | 2 | PC | 47118 | |
| 2 | 265612 | 207038 | 1594 | 9 | PC | 47007 | |
| 3 | 265612 | 421751 | 1416 | 8 | PC | 47007 | |
| 4 | 265612 | 421758 | 511 | 3 | PC | 47007 | |
| 5 | 265614 | 207038 | 1593 | 9 | PC | 47007 | |
| 6 | 265614 | 421758 | 2654 | 15 | PC | 47007 | |
| | | | 8145 | 46 | | | |

Notes for COR: D164055.6
 PRODUCT PRODUCED TO THE REQUIREMENTS OF AMS4027 REV N ALSO MEET THE REQUIREMENTS OF AMS-QQ-A-250 L1 ORIGINAL REVISION N DATED 1997-08-01.

COR: D164055.6 -Specification Limits

| TEMP DIR | UTS | FYS | ELAD |
|-------------------|------|------|------|
| T651 Long Transv. | KSI | KSI | PCT |
| Max | 42.0 | 35.0 | 10 |
| Min | | | |

| Chemical Composition | SI | FE | CU | MN | MG | CR | ZN | TI | Other |
|----------------------|-----|------|-----|------|------|-----|------|------|-------|
| Alloy 6061 | Max | 0.8 | 0.7 | 0.40 | 0.15 | 1.2 | 0.35 | 0.25 | 0.05 |
| | Min | 0.40 | | 0.15 | | 0.8 | 0.04 | | 0.15 |

Notes for lot: 207038
 TENSILE TEST VALUES IN MPa = 330, 330 YIELD TEST VALUES IN MPa = 294, 293.

REMAIN

CERTIFIED INSPECTION REPORT

Alcoa Inc.

PITTSBURGH, PA DAVENPORT WORKS

Ship From:

Page 2

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet, the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

Melchior Murphy
 Director of Manufacturing Development Works

Karen P. Young
 Quality Assurance Manager

1195221 Ship Date 0 B.I. No. Invoice No. Alcoa No. Item
 2010-12-28 5519258 00000 1000253279-1
 P.O. No./Govt Contract No. Customer Alcoa Item
 10077485 Inv#: 1 ALASKAN COPPER & B G041107416R06

Lot: 207038 - Mechanical, physical, Metallurgy, Quantometer Results (cont.)

Temp Dir No-> DTS TYS
 Test KSI KSI
 7651 Long Transv. 2 47.8 42.6
 47.8 42.5

Cast Number Chemical - OBS SI FE CU MN MG CR ZN TI
 H9844092 Actuals 0.64 0.4 0.25 0.06 1.0 0.19 0.04 0.02

Notes for lot: 423751
 TENSILE TEST VALUES IN MPA = 325, 326 YIELD TEST VALUES IN MPA = 292, 292
 Lot: 423751 MECHANICAL, PHYSICAL, Metallurgy, Quantometer Results

Temp Dir No-> UTS TYS
 Test KSI KSI
 7651 Long Transv. 2 47.2 42.3
 47.3 42.4

Cast Number Chemical - OBS SI FE CU MN MG CR ZN TI
 H9844092 Actuals 0.64 0.4 0.25 0.06 1.0 0.19 0.04 0.02

Notes for lot: 423752
 TENSILE TEST VALUES IN MPA = 331, 332 YIELD TEST VALUES IN MPA = 297, 296.
 Lot: 423752 - Mechanical, physical, Metallurgy, Quantometer Results

Temp Dir No-> UTS TYS
 Test KSI KSI
 7651 Long Transv. 2 48.2 43.1
 48.2 42.9

Cast Number Chemical - OBS SI FE CU MN MG CR ZN TI
 H9844092 Actuals 0.64 0.4 0.25 0.06 1.0 0.19 0.04 0.02

Notes for lot: 423758
 TENSILE TEST VALUES IN MPA = 330, 328 YIELD TEST VALUES IN MPA = 293, 294.

DP 283

CERTIFIED INSPECTION REPORT

Alcoa Inc.

PITTSBURGH, PA DAVENPORT WORKS

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet, the applicable requirements described herein, including any special conditions forming a part of the description and that samples representative of the material meet the composition limits and that the mechanical properties shown on the face of this sheet.

[Signature]
 Director of Manufacturing Davenport Works

[Signature]
 Kenan P. Young
 Quality Assurance Manager

1195221 Ship Date 9 B.I. No. Invoice No. Alcoa No. Item Page 3
 2010-12-28 5519258 00000 1000253279-1 DS-53279-1
 P.O. No./Draw Contract No. Customer Alcoa Item
 10077445 Int# : 1 ALASKAN COPPER & B 0041107416R06

Lot: 423758 - Mechanical, Physical, Metallurgy, Quantometer Results (cont.)
 Loc: 423758 - Mechanical, Physical, Metallurgy, Quantometer Results

| Thrd | Dir | Long Transv. | Test | DTS | TYS | EL#D |
|------|-----|--------------|------|------|------|------|
| T651 | | | 2 | 47.8 | 42.5 | 15 |
| | | | | 47.5 | 42.6 | 14.9 |

Cast Number H5844092
 Chemical Actuals
 SI 0.64 FE 0.4 CU 0.25 MN 0.06 MG 1.0 CR 0.19 ZN 0.04 TI 0.02

This material was melted in the United States or a Qualifying Country [RRR DRAWS 225.872.1(a)], it was manufactured in the United States

PR 3 013



Phone: (206) 343-0700 WATS: (800) 835-4545
Fax: (206) 343-1366 In State: (800) 233-3660
3660 East Marginal Way South, P.O. Box 3625, Seattle, WA 98124

Certification of Compliance

| Sold to | |
|-----------------|----------|
| RAINIER WELDING | |
| 19020 N.E. 84TH | |
| REDMOND | WA 98053 |

Work Order: G2087
All W/O Certifications

Page: 1

| Additional Information | |
|------------------------|-----------------|
| Customer Order: 2860-1 | Ordered By: BOB |
| Order Date: 1/19/2011 | Salesman: RP |

Seaport Steel certifies that Mill Certification documents for materials shipped on this work order have been verified to comply with grade/specification requirements as listed below by material description and heat number.

A36 PL 3 X 96 30' 0"

Heat # 0504750

NUCOR
PLATE MILL

P.O. Box 279
Winton, NC 27986
(252) 356-3700

Mill Test Report
Page 4



Issuing Date : 08/16/2010 B/L No. : 269904 Our Order No. : 83561/A Cust. Order No. : E32813
 Vehicle No. : ATW 116052 Sold To : SEAPORT STEEL COMPANY Ship To : SEAPORT STEEL COMPANY
 Specification : 3.0000" x 96.0000" x 360.0000" P.O. BOX 3625 3660 EAST MARGINAL WAY SOUTH SEATTLE, WA 98134
 ASTM A36-08/A36M A709 Grade 36-09a/AASHTO M270 Grade 36/ASME SEATTLE, WA 98124
 SA36-03a 2009 Addenda AASHTO M270 36

E02813

Marking :

| Heat No | C | Mn | P | S | Si | Cu | Ni | Cr | Mo | Al(%) | V | Nb | Ti | N | Ca | B | Sn | Ceq | Pcm |
|---------|------|------|-------|-------|------|------|------|------|------|-------|-------|-------|-------|---|--------|--------|-------|------|------|
| 0504750 | 0.18 | 0.99 | 0.009 | 0.003 | 0.17 | 0.16 | 0.05 | 0.05 | 0.01 | 0.019 | 0.004 | 0.002 | 0.001 | | 0.0016 | 0.0001 | 0.009 | 0.36 | 0.25 |

| Plate Serial No | Tensile Test | | | Charpy Impacts | | | | | | | | | | | | | | | | | | |
|-----------------|--------------|-------|------|----------------|-----------|-----------|-----------|------|------|------|-----|--|--|--|--|--|--|--|--|--|--|--|
| | Pieces | Tons | Dir. | Dir. | (F) shear | (F) shear | (F) shear | Size | Temp | Ave. | Min | | | | | | | | | | | |
| 0504750-07 | 1 | 14.70 | T | 40,000 | 70,700 | 31.6 | | | | | | | | | | | | | | | | |
| | | | T | 38,600 | 69,800 | 32.2 | | | | | | | | | | | | | | | | |

Manufactured to fully killed practice by Electric Arc Furnace. Welding or weld repair was not performed on this material. We hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with the applicable specifications, including customer specifications.

Mercury has not been used in the direct manufacturing of this material. Produced as continuous cast discrete plate as-rolled, unless otherwise noted in Specification.

Yield by 0.002" method unless otherwise specified. Ceq = C+(Mn/6)+((Cu+Mo+V)/5)+(Co+Ni)/15

Pcm = C+(Si/20)+((Mn/20)+(Cu/20)+(Ni/20)+(Cr/20)+(Mo/15)+(V/10)+B)

Milled and manufactured in the USA. ISO 9001:2000 certified (#006461) by SRI Quality System Registrar (#0965-08), PED 9723/VEC 712 Annex 1, Param. 4.3 Compliant.

DN 50049 3.1:BVEN 10204 3.1B(2004), DIN EN 10204 3.1(2005) compliant. For ABS grades only. Quality Assurance certificate 06-MM-POA-363

T. A. Depriets, Metallurgist

08/16/2010 3:24:29 PM