

CERTIFICATE OF COMPLIANCE AND TEST REPORT

FOR

SEAMLESS ALUMINUM CYLINDERS MANUFACTURED UNDER
U. S. DEPARTMENT OF TRANSPORTATION REGULATIONS, AND
TRANSPORT CANADA REGULATIONS.MANUFACTURED FOR: CATALINA CYLINDERS
7300 ANACONDA AVENUE, GARDEN GROVE, CALIFORNIA 92841MANUFACTURED BY: CATALINA CYLINDERS
7300 ANACONDA AVENUE, GARDEN GROVE, CALIFORNIA 92841CONSIGNEE TO: CATALINA CYLINDERS
7300 ANACONDA AVENUE, GARDEN GROVE, CALIFORNIA 92841**CYLINDER DESCRIPTION AND DESIGN CRITERIA:**

Specification: DOT-3AL3000 (TC-3ALM207) Service Pressure: **3000 psi (207 BAR)**
Nominal Size **5.25 inches (133.4 mm) OD** DOT Test Pressure: **5000 psi** TC Test Pressure: **311 BAR**
25.2 inches (640.1 mm) Long Minimum Wall: **.344 inches (8.738 mm)**
Nominal Volumetric Capacity: **350.4 Cu. In. (5.76 L)**
DOT Calculated Stress at test pressure: **32704 psi.**

MANUFACTURING PROCESS:

Construction: Backward Extrusion to Form a Seamless Shell, the open end is closed by swaging.

MATERIAL AND HEAT TREATMENT: 6061 Aluminum. Solution Treatment and Artificial Aging to the 6061 T6 Condition.**REPORT DETAILS:**Quantity: **86**Cast Code: **RL0**Lot Numbers: **AH784****MARKS STAMPED INTO THE SHOULDER OF THE CYLINDER ARE:**

Specification and Service Pressure: DOT 3AL3000

Serial Numbers: **BI0016640** to **BI0016725** inclusive

Test Date: 02-15

Inspector's Mark: **CL**Other Marks: TC-3ALM207 CATALINA S40 SP12
FP20.7MPA TP31.1MPA W7.3KG V5.8L AIR

Manufacturer's Symbol: M4002

I hereby certify that I have determined the cylinders described on this report comply with the requirements of the U. S. Department of Transportation Specification 3AL, and Transport Canada Specification 3ALM.

Remarks:

T. H. COCHRANE LABORATORIES, LTD.
Milwaukee, WI 53225Signed: 

Inspector

Date: **FEB 05 2015**

NOTE: The cylinders that are the subject of this Test Report have been inspected in accordance with the requirements of the law and the regulations of the Department of Transportation, and Canada's Transport Canada. This Test Report is not to be taken as an indication that said cylinders are or are not safe for use. THIS TEST REPORT DOES NOT CONSTITUTE AN EXPRESS OR IMPLIED WARRANTY.

SERIAL NUMBER RANGE: **BI0016640** to **BI0016725** inclusive

SIZE: 5.25 O.D. x 25.2 long.

CYLINDER MANUFACTURER: CATALINA CYLINDERS

RECORD OF CHEMICAL ANALYSIS OF MATERIAL FOR CYLINDERS

Alloy	Cast Code	Type of Analysis (Ladle or Cast)	CHEMICAL ANALYSIS									
			Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi
6061	RL0	Ladle	.60	.17	.31	.01	.91	.076	.00	.01	.000	.000

Balance AL Other Elements each <.05, Total <.15

Chemical Analysis and Check Analysis are on file at the Manufacturer. Material Manufacturer: ALCAN

The above analysis has been verified to comply with material authorized by the specification.

RECORD OF PHYSICAL TESTS OF MATERIAL FOR CYLINDERS

LOT NO.	TEST BAR	YIELD STRENGTH IN PSI (MPa)	TENSILE STRENGTH IN PSI (MPa)	% ELONGATION	FLATTENING TEST
AH784	0	40,988 psi (282.6 Mpa)	52,551 psi (362.3 Mpa)	20.1	Pass
	180	47,060 psi (324.5 Mpa)	51,782 psi (357.0 Mpa)	15.9	

Signed: _____

INSPECTOR

Date: _____

Location: Garden Grove, California

RECORD OF HYDROSTATIC TESTS OF CYLINDERS
CATALINA CYLINDERS

DATE & TIME: 2/4/2015 1:40:03 PM

TYPE: S40

SIZE:

: SERIAL NOS.	:ACTUAL:	LOT :	TOTAL :	PERM. :	RATIO :	TARE :	VOLUME :	
: OF CYLINDERS	:PRESS :	NOS.:	EXPN. :	EXPN. :	:of PERM :	WEIGHT:	CAPY :	CAST
:	:PSIG :	:	CC :	CC :	:to TOTAL:	Lbs :	CU IN :	CODE
BI0016640	5015	AH784	037.2	000.3	00.8	016.14	352.30	
BI0016641	5015	AH784	036.6	000.0	00.0	016.04	353.40	
BI0016642	5015	AH784	037.1	000.3	00.8	016.05	353.40	
BI0016643	5015	AH784	036.4	000.3	00.8	016.04	353.10	
BI0016644	5015	AH784	037.0	000.3	00.8	016.23	352.90	
BI0016645	5015	AH784	036.6	000.2	00.5	016.04	353.10	
BI0016646	5015	AH784	037.0	000.3	00.8	016.06	352.60	
BI0016647	5015	AH784	036.8	000.3	00.8	016.01	354.80	
BI0016648	5016	AH784	037.2	000.3	00.8	016.02	353.40	
BI0016649	5016	AH784	036.8	000.0	00.0	016.03	353.40	
BI0016650	5016	AH784	036.8	000.2	00.5	016.04	352.90	
BI0016651	5016	AH784	036.8	000.3	00.8	016.21	353.40	
BI0016652	5016	AH784	037.0	000.3	00.8	016.04	353.40	
BI0016653	5016	AH784	037.0	000.2	00.5	016.04	354.00	
BI0016654	5016	AH784	036.7	000.3	00.8	016.04	353.40	
BI0016655	5016	AH784	036.9	000.4	01.1	016.04	353.40	
BI0016656	5017	AH784	037.2	000.2	00.5	016.11	351.50	
BI0016657	5017	AH784	036.5	000.1	00.3	016.05	354.20	
BI0016658	5017	AH784	037.1	000.3	00.8	016.04	353.40	
BI0016659	5017	AH784	036.9	000.4	01.1	016.07	352.60	
BI0016660	5017	AH784	036.7	000.3	00.8	016.23	352.90	
BI0016661	5017	AH784	037.4	000.4	01.1	016.05	357.30	
BI0016662	5017	AH784	036.8	000.3	00.8	016.04	353.40	
BI0016663	5017	AH784	036.9	000.2	00.5	016.05	354.20	
BI0016664	5016	AH784	037.1	000.5	01.3	016.04	353.40	
BI0016665	5016	AH784	036.5	000.3	00.8	016.21	354.50	
BI0016666	5016	AH784	037.2	000.5	01.3	016.03	354.00	
BI0016667	5016	AH784	036.6	000.4	01.1	016.04	353.40	
BI0016668	5016	AH784	037.0	000.3	00.8	016.05	355.10	
BI0016669	5016	AH784	036.9	000.5	01.4	016.04	353.40	
BI0016670	5016	AH784	036.8	000.4	01.1	016.06	357.30	
BI0016671	5016	AH784	036.7	000.4	01.1	016.20	354.20	
BI0016672	5017	AH784	036.9	000.1	00.3	016.08	356.70	
BI0016673	5017	AH784	036.6	000.1	00.3	016.03	354.00	
BI0016674	5017	AH784	037.0	000.4	01.1	016.10	353.10	
BI0016675	5017	AH784	036.5	000.3	00.8	016.03	354.00	
BI0016676	5017	AH784	037.2	000.5	01.3	016.07	356.50	
BI0016677	5017	AH784	036.9	000.3	00.8	016.11	351.20	
BI0016678	5017	AH784	037.1	000.4	01.1	016.04	354.20	
BI0016679	5017	AH784	036.7	000.3	00.8	016.10	353.10	
BI0016680	5017	AH784	037.1	000.4	01.1	016.06	353.40	

RECORD OF HYDROSTATIC TESTS OF CYLINDERS
CATALINA CYLINDERS

DATE & TIME: 2/4/2015 1:40:03 PM

TYPE: S40

SIZE:

SERIAL NOS.	ACTUAL:	LOT :	TOTAL :	PERM. :	RATIO :	TARE :	VOLUME :	OF CYLINDERS	PRESS :	NOS.:	EXPN. :	EXPN. :	of PERM :	WEIGHT:	CAPY :	CAST
:	:PSIG :	:	CC :	CC :	to TOTAL:	Lbs :	CU IN :	:	:	:	:	:	:	:	:	CODE
BI0016681	5017	AH784	036.8	000.2	00.5	016.05	353.40									
BI0016682	5017	AH784	037.3	000.4	01.1	016.04	352.60									
BI0016683	5017	AH784	036.5	000.4	01.1	016.22	353.10									
BI0016684	5017	AH784	037.1	000.4	01.1	016.04	352.90									
BI0016685	5017	AH784	037.1	000.4	01.1	016.05	352.30									
BI0016686	5017	AH784	036.6	000.4	01.1	016.23	352.30									
BI0016687	5017	AH784	037.0	000.6	01.6	016.07	352.30									
BI0016688	5016	AH784	037.4	000.7	01.9	016.10	354.80									
BI0016689	5016	AH784	036.5	000.1	00.3	016.20	354.20									
BI0016690	5016	AH784	037.2	000.4	01.1	016.11	352.30									
BI0016691	5016	AH784	036.9	000.5	01.4	016.05	353.10									
BI0016692	5016	AH784	037.1	000.5	01.3	016.05	353.10									
BI0016693	5016	AH784	037.0	000.3	00.8	016.08	352.00									
BI0016694	5016	AH784	036.9	000.3	00.8	016.05	353.10									
BI0016695	5016	AH784	036.9	000.3	00.8	016.08	352.90									
BI0016696	5016	AH784	037.6	000.8	02.1	016.08	353.10									
BI0016697	5016	AH784	036.7	000.1	00.3	016.05	352.60									
BI0016698	5016	AH784	037.3	000.5	01.3	016.01	353.70									
BI0016699	5016	AH784	036.9	000.5	01.4	016.05	352.60									
BI0016700	5016	AH784	037.2	000.5	01.3	016.07	353.40									
BI0016701	5016	AH784	037.1	000.3	00.8	016.04	352.60									
BI0016702	5016	AH784	036.8	000.5	01.4	016.23	352.30									
BI0016703	5016	AH784	036.4	000.3	00.8	016.23	352.90									
BI0016704	5016	AH784	037.3	000.4	01.1	016.04	353.70									
BI0016705	5016	AH784	036.8	000.1	00.3	016.04	353.70									
BI0016706	5016	AH784	037.1	000.3	00.8	016.04	355.90									
BI0016707	5016	AH784	037.0	000.4	01.1	016.05	353.40									
BI0016708	5016	AH784	036.8	000.3	00.8	016.20	353.70									
BI0016709	5016	AH784	036.8	000.3	00.8	016.09	356.20									
BI0016710	5016	AH784	037.2	000.6	01.6	016.06	352.90									
BI0016711	5016	AH784	037.0	000.5	01.4	016.07	353.70									
BI0016712	5019	AH784	037.0	000.2	00.5	016.06	355.60									
BI0016713	5019	AH784	036.5	000.0	00.0	016.11	352.00									
BI0016714	5019	AH784	037.1	000.3	00.8	016.07	353.70									
BI0016715	5019	AH784	036.6	000.2	00.5	016.04	353.40									
BI0016716	5019	AH784	036.9	000.5	01.4	016.20	353.70									
BI0016717	5019	AH784	036.8	000.2	00.5	016.06	355.60									
BI0016718	5019	AH784	036.9	000.3	00.8	016.12	351.20									
BI0016719	5019	AH784	036.5	000.2	00.5	016.20	353.70									
BI0016720	5011	AH784	037.2	000.5	01.3	016.04	353.70									
BI0016721	5011	AH784	036.9	000.4	01.1	016.03	354.00									

RECORD OF HYDROSTATIC TESTS OF CYLINDERS
CATALINA CYLINDERS

DATE & TIME: 2/4/2015 1:40:04 PM

TYPE: S40
SIZE:

SERIAL NOS.	ACTUAL:	LOT :	TOTAL :	PERM. :	RATIO :	TARE :	VOLUME :	
OF CYLINDERS	PRESS :	NOS.:	EXPN. :	EXPN. :	of PERM :	WEIGHT:	CAPY :	CAST
	PSIG :	:	CC :	CC :	to TOTAL:	Lbs :	CU IN :	CODE
BI0016722	5011	AH784	036.9	000.5	01.4	016.20	353.70	
BI0016723	5011	AH784	036.5	000.2	00.5	016.20	353.70	
BI0016724	5011	AH784	036.7	000.3	00.8	016.04	353.70	
BI0016725	5011	AH784	036.8	000.4	01.1	016.23	352.60	

T. H. COCHRANE LABORATORIES, LTD.

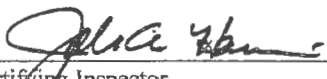
Signature Page of Certifying Inspector for DOT/TC Certificate of Compliance and Test Report No.

01555004

I hereby certify that I have determined the cylinders described on this report comply with the requirements of the U. S. Department of Transportation Specification 3AL, and Transport Canada Specification 3ALM.

T. H. COCHRANE LABORATORIES, LTD.
Milwaukee, Wisconsin

Signed:



Certifying Inspector

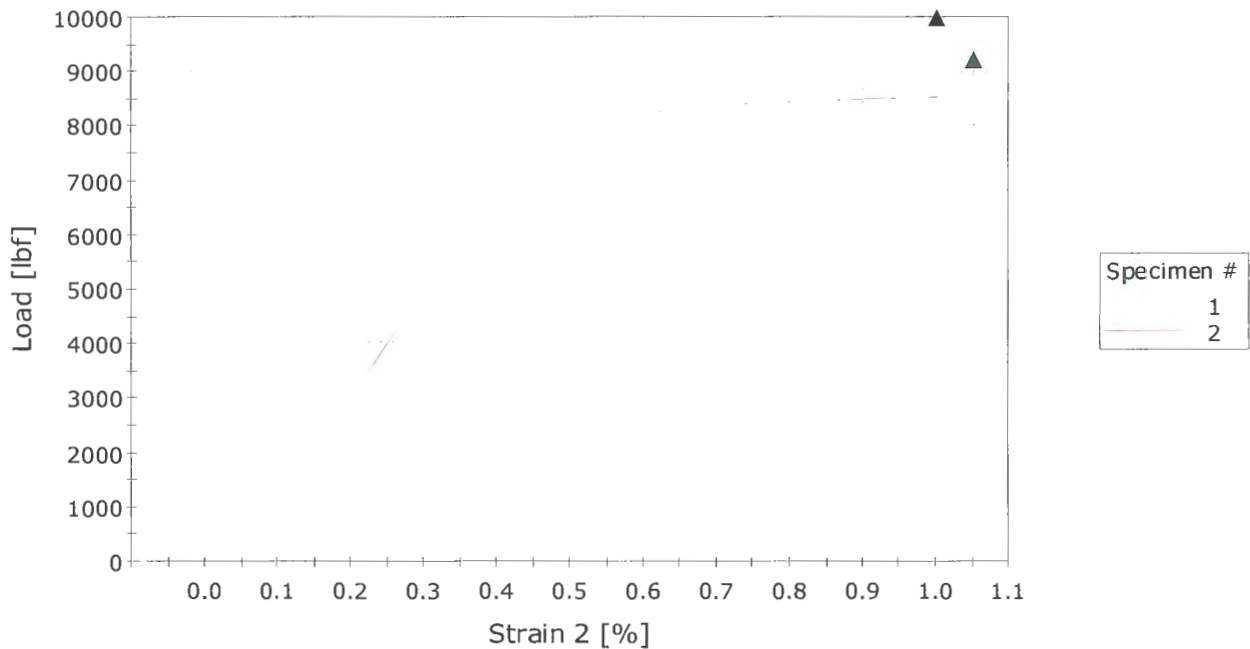
RECORD OF MECHANICAL PROPERTY TESTING**Thursday, June 12, 2014**

Independent Inspection Agency: TH Cochrane Laboratory Ltd(IAO3)

Manufacturer: Catalina Clinders/Garden Grove, Ca. Facility(M4002)

HT Lot#	AH784
Cylinder Type	BI40
Cast #	RL0
Hardness	68.
Material	6061-T6
Rate 1	0.11 in/min
Number of specimens in sample	2
0 Degree Pass/Fail (Enter P or F)	P
180 Deg Pass/Fail (Enter P or F)	P
Crush Test Pass/Fail (Enter P or F)	P

	Thickness [in]	Width [in]	Area [in^2]	YTS- Load [lbf]	YTS [psi]	UTS-load [lbf]	UTS [psi]	%e [%]
1	0.383	0.496	0.1900	7786.4	40988.0	9983.1	52551.3	20.1
2	0.360	0.494	0.1778	8369.2	47060.4	9209.0	51782.5	15.9

Tensile Test**INSPECTOR:****DATE:**

6.12.14

Certificat d'analyse / Certificate of Analysis

SHA

Page: 1 / 3

Ref. client / Customer Ref. :

Commande Rio Tinto Alcan / Rio Tinto Alcan Order

R50776

415-0317044-1

Expédié à / Ship to :

CATALINA CYLINDERS
DIVISION OF ALUMINUM PRECISION PRODUCTS
7300 ANACONDA AVE

Vendu à / Sold to :

ALCAN PRIMARY PRODUCTS COMPANY LLC
6150 PARKLAND BLVD., SUITE 200

GARDEN GROVE
CA, United States
92841

CLEVELAND, OH

44124-4185

Handwritten signature
06/30/13

Point d'origine / Point of Origin
Rio Tinto Alcan Inc.

USINE SHAWINIGAN
1100 Boul. St-Sacrement
Shawinigan
Québec, Canada
G9N 6W4

Date d'exp. / Shipping Date:

2013-09-10

Connaissement / Bill of Lading:

326-010579-083706

Liste d'exp. / Shiplist:

83706

Équipement / Equipment:

ICG978850

Alliage (AA) / Alloy (AA) :

69276

(6061)

Produit / Product :

Aluminum Extrusion Ingot

Dimension :

133 MM DIA. X 5486 MM LONG
5.25 IN DIA. X 216 IN LONG

Analyse en % du poids / Analysis in % of weight

No d'échantillon de coulée Sample No of Drop	No Lot Lot No	Poids net (KG) Net Weight (KG)	Poids net (LB) Net Weight (LB)	Pièces		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Bi	Ga
						Pb	Sn								
13549201B	8286515	1,635	3,605	8		0.60	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01
13549201B	8286516	1,637	3,609	8		0.60	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01
13549201B	8286517	1,636	3,607	8		0.60	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01
13549201B	8286518	1,635	3,605	8		0.60	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01
13549201B	8286519	1,636	3,607	8		0.60	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01
13549201B	8286520	1,636	3,607	8		0.60	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01
13549201C	8286521	1,636	3,607	8		0.61	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01
13549201C	8286522	1,637	3,609	8		0.61	0.17	0.31	0.01	0.91	0.076	0.00	0.01	0.000	0.01

Paquets :	Poids net :	KG	20,046	Pièces :	98	Tare :	KG	246	Poids brut :	KG	20,292
Bundles :	Net Weight :	LB	44,194	Pieces :			LB	542	Gross Weight :	LB	44,736

LES INGOTS TRUOX 230G, LES INGOTS EN FORME DE T, LES GUEULES, LES INGOTS DE L'AMMAGE MIS AU REBUT ET AUTRES INGOTS DE REFUSION, ONT TENDANCE À
KOSNER DES CAVITÉS, SUCCEPTIBLES D'ENFERMER DE L'EAU, POUR ÉLIMINER L'HYDRATE AVANT LEUR EMPLOI, DANS TOUT PROCÉDÉ DE FUSION ET POUR PRÉVENIR LES
RISQUES D'EXPLOSION, LES INGOTS DEVRAIENT ÊTRE SOUMIS À UN SÉCHAGE INTENSE PAR CHAUFFAGE PRÉLIMINAIRE AVANT DE LES INCORPORER À DU MÉTAL EN FUSION.
TRUOX 230G INGOT, TEE, INGOT, SDMS, SCRAPPED SHEET INGOT, AN OTHER INGOT FOR REMELTING ARE PRONE TO THE FORMATION OF SHRINKAGE CAVITIES WHICH WILL
PERMIT ENTRAPMENT OF WATER, TO ELIMINATE MOISTURE PRIOR TO USE IN ANY MELTING OPERATION AND TO SAFEGUARD AGAINST POSSIBLE EXPLOSION HAZARDS, INGOTS
SHOULD BE THOROUGHLY DRIED BY PREHEATING BEFORE LOADING THEM INTO MOLTEN METAL.

L'EXACTITUDE DE CES ANALYSES EST DANS LES NORMES DES LIMITES COMMERCIALES.
THE ANALYSES HERE ARE ACCURATE WITHIN COMMERCIAL LIMITS.

/ Michel Caron

4 13 BCLDS CAT 1A 19-06-13

