

Montréal, le 10 août 2022.

MR. SCOTT ISLIP
ROUND ENGINEERING
10 SEGWUN RD
WATERDOWN ONTARIO
CANADA L8B OK6

Manufacturer : CHART INC.
5615 129TH AVENUE
TULSA OKLAHOMA
USA

OUR REFERENCE : 947484
Design number : EARTHLY LABS REPORT R-1751 REV.0

Subject: Design registration confirmation

Hi,

We wish to inform you that your design registration application has been evaluated and that it was registered under the following Canadian Registration Number (CRN): **0H05597.6**.

The following is a reminder of your obligations regarding certain requirements of the regulation respecting pressure vessels, and the referenced codes and standards:

- The manufacturer must maintain a valid quality control program to manufacture equipment according to the CRN.
- The CRN remains valid as long as there are no changes to the design calculations that might affect the pressure boundary. The design registration of fittings expires 10 years after acceptance. It must, therefore, be resubmitted for validation.
- The manufacturer shall submit a copy of the *Manufacturer's Data Report* to us for each equipment manufactured according to this CRN within 30 days following the signing of this report.
- The drawing number and the revision number registered under this CRN must be indicated on the *Manufacturer's Data Report* for equipment manufactured according to the CRN.

This notice of approval does not relieve the manufacturer of their responsibilities with respect to the design or fabrication of equipment manufactured according to this CRN.

Yours sincerely,

Bureau d'expertise et d'homologation en équipements sous pression

Montréal

545, boul. Crémazie Est, 7ième étage
Montréal (Québec) H2M 2V2
Téléphone : 514 873-6459
Sans frais : 1 866 262-2084
www.rbq.gouv.qc.ca

Montréal, 10 août 2022.

MONSIEUR SCOTT ISLIP
ROUND ENGINEERING
10 SEGWUN RD
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CANADA L8B 0K6

Fabricant : CHART INC.
5615 129TH AVENUE
TULSA OKLAHOMA
USA

Numéro de dossier : 947484

Numéro(s) de dessin(s) : EARTHLY LABS REPORT R-1751 REV.0

Objet : Enregistrement des plans et devis – Confirmation de l'enregistrement

Bonjour,

Nous vous informons que votre demande d'enregistrement de plans et devis a été traitée et que cette conception a été enregistrée sous le numéro d'enregistrement canadien (NEC\CRN) suivant : **0H05597.6**.

Nous portons votre attention sur certaines exigences réglementaires concernant les installations sous pression, ainsi que des codes et normes qui y sont associés :

- Le fabricant doit maintenir un programme de contrôle de la qualité valide pour fabriquer un équipement selon ce NEC;
- Ce numéro d'enregistrement demeure valide tant et aussi longtemps que les paramètres de conception demeurent inchangés. Dans le cas d'accessoires, l'enregistrement est valide pour une durée de 10 ans à partir de la date de conception doivent alors être resoumis pour validation;
- Le fabricant doit nous transmettre une copie de la *Déclaration de conformité du constructeur (Manufacturer's Data Report)* pour chaque appareil ou chaudière fabriqué selon ce NEC dans les 30 jours suivant la signature de cette déclaration;
- Le numéro de dessin enregistré et le numéro de révision doivent être indiqués sur la déclaration de conformité pour les équipements fabriqués selon ce NEC.

Le présent avis d'approbation ne dégage pas le fabricant de ses responsabilités quant à la conception ou à la construction des équipements ou d'accessoires fabriqués selon un NEC.

Bureau d'expertise et d'homologation en équipements sous pression

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Building Act (B-1.1)
Regulation respecting pressure vessels (B-1.1, r. 6.1)
Boiler, pressure vessel, and pressure piping code (CSA B51)

This declaration must be filled out and sent to the Régie du bâtiment du Québec (RBQ) by pressure fitting manufacturers when they make an application registration for fittings.

For more information on the application registration for fittings, consult the www.rbq.gouv.qc.ca/fittings-pv.

1. Fittings to register

List the fittings included in this declaration and that you wish to register.

N°	Description	Additional information (detail, calculations or approval sheets)
1	CARBON CAPTURE SYSTEM	
2	SCOPE OF CRN, REPORTS,	
3	DRAWINGS,	
4	CALCULATIONS,	
5	COMPANY LOGO - SEE RIGHT	

2. Declaration of the person in charge

The person in charge is someone in a position of authority, such as a vice-president, a plant manager or a chief engineer.

2.1 Design

I, the undersigned, Ron Street Plant Manager,
(Name of the person in charge) (Title of the person in charge)

from Chart Inc., located at See Attached Worldwide Locations Appendix
(Company's name) (Plant's address)

hereby declare that the above-mentioned fittings and subject to the Regulation respecting pressure installations:


comply with the requirements of the ANSI/ASME codes as to their dimensions, identification, material and purpose or ASME B31.3

are not covered by the ANSI/ASME codes, but are in compliance with _____
(Name of code or standard)

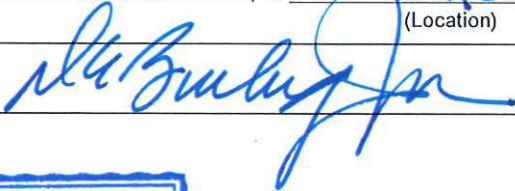
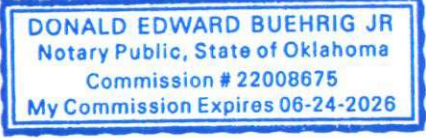
code or standard and are designed according to the best current engineering practice, as proven by the enclosed approval report.

2.2 Manufacturing quality control


I further declare that the manufacture of these fittings is controlled by a quality control program that complies with the requirements of the following code: ISO 9001:2015, and has been verified by Bureau Veritas.
(Name of code) (Authorized agency)

Signature of the person in charge:  Date (yyyy-mm-dd): 2022/07/01

3. Declaration of commissioner for oaths

I certify that this declaration has been administered before me, at <u>Chart Inc. in Tulsa, OK</u> , on <u>2022-07-01</u> .	
(Location)	(Date (yyyy-mm-dd)):
Signature of commissioner for oaths: 	Date (yyyy-mm-dd): <u>2022-07-01</u>
Stamp the seal: 	

4. Registration confirmation (for RBQ's use only)

As far as I know, this application complies with the requirements of the Act and with standard CSA B51, Part 1, section 4.2, and is accepted for registration in the class _____.	
This registration expires in ten (10) years after the date of registration indicated above, and it must be validated again after this period.	
Canadian registration number (CRN): 	Registration date (yyyy-mm-dd):

Documents to attach

Any application registration for fittings must include these documents:

- Statutory Declaration Registration of Fittings (2 copies)
- Detailed calculations or burst test report (1 copy)
- Detailed technical drawings or catalogues (2 copies)
- Example of the manufacturer's marking (1 copy)
- Proof that a valid and approved quality control program has been implemented (1 copy)
- Form Application for design registration (1 copy)

Sending the form

This declaration is necessary to submit an application for design registration. Design registration applications must be sent by email only to enregistrementdesplans@rbq.gouv.qc.ca.

Documents must be in PDF format and in separate files.

CHART INC.

5615 S. 129TH E. AVE.
TULSA, OK
74134



15-Jul-22

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SCOPE OF CRN REGISTRATION

Product Description	Drawing Numbers	Design Code	Size Range	Connections	Material Specification	MAWP at MAWT (psig)	MDMT (F)	CA (in.)	Report Number
Carbon Capture System	Earthly Labs CiCi (Oak) 3-Way PID V6.7 - CRN.VSDX, CRN C-1000, CRN Line 1010 Rev. 1, CRN H-1010 Rev. 1, CRN Line 1011 Rev. 1, CRN Line 1012 Rev.1, CRN Line 1014 Rev.1, CRN Line 1013, CRN Line 1020 Rev. 1, CRN Line 1021 Rev. 1, CRN Line 1022, V-1020 & V-1021 Dryer Beds CRN Line 1023, CRN Line 1024, CRN Line 1030, CRN V-1030, CRN Line 1031 Rev.1, CRN H-1040 Rev. 2, CRN Line 1040 Rev. 1, CarboMax 1000 CO2 Dewar, CRN Line 1041 Rev. 1	ASME B31.3, 2020	1/4" OD x 0.035", 3/8" OD x 0.035", 2" Sch. 40S, 1/2" Class 3000, 2" Class 3000	Tube End, NPT, ASME B16.5 Flanged	ASTM A213 TP316, ASTM A269 TP316, ASTM A270 TP316, ASTM A312 TP304, ASTM A182 F316, ASTM A182 F304	<u>CO2</u> : 175 psig at 150°F	30°F and -40°F (Note 2)	Nil	R-1751 Rev. 0

Note 1: MAWP = Maximum Allowable Working Pressure, MAWT = Maximum Allowable Working Temperature, MDMT = Minimum Design Metal Temperature.

Note 2: All CSA B51 regulated lines in the Carbon Capture System have a MDMT equal to 30°F except for line 1040 between the Chiller and Dewar which has a MDMT equal to -40°F.

Note 3: Per CSA Table 1 Note (2)(B) the total volume of any configured assembly shall not exceed 1.5 cubic feet in volume.

Note 4: Flanges to comply with ASME B16.5 and ASME B16.11 fittings shall be Class 3000.

Note 5: See Attached List of Chart Inc. Manufacturing locations applicable to this CRN.



WORLDWIDE LOCATIONS APPENDIX

**CHART INC. MANUFACTURING LOCATIONS
& CERTIFYING AUTHORITIES COVERED UNDER THIS CRN**

(rev. 21/Feb./2022)

Chart Inc.

1300 Airport Dr.,
Ball Ground, GA
30107, USA

ISO 9001:2015 Certified by Bureau Veritas

Chart Inc.

5615 S. 129TH E. Ave.
Tulsa, OK
74134, USA

ISO 9001:2015 Certified by Bureau Veritas