

1060-04

Canadian Natural Resources Limited
Production - Facilities Engineering
A0409983 Horizontal Vessel Certificate of Inspection
and Manufacturers Data Report

Content Date Range: 2/15/2002 to 2/15/2002

Vessel Integrity

Inspection Data

Open: 1/31/2007 Close:

Vital: Yes
Original: Yes
Confidential: No

CC+2 0P P



00762377

A0409983 - VESSEL INSPECTION / DATA - FEB 2002

Certificate of Inspection

ANADARKO CANADA CORPORATION
PO BOX 2595 STN M
425-1 STREET SW
ATTN TERRY MCCONNELL
CALGARY, AB
T2P 4V4

PREFERRED RE-INSP. INTERVAL: 3.00 Yr.

YEAR BUILT: 2002
CRN: K2109.12
SERIAL #: 12572

LOCATION: STOCK - CALGARY
DESCRIPTION: HORIZONTAL VESSEL
COMPANY CODE:
MANUFACTURER: BILTON WELDING & MANUFACTURING LTD

VOLUME: 18.519 M3
HEATING SURFACE:
SURFACE AREA:
Safety Valves

| PART | MAX. AUTHORIZED WORKING PRESSURE | MAX. TEMP | MIN. TEMP | VALVE ID | SETTING | CAPACITY | LOCATION |
|--------|----------------------------------|-----------|-----------|----------|---------|----------|-----------------|
| VESSEL | 345 KPA | 93 C | -29 C | SV1 | | | TO BE INSTALLED |

OWNER INSTRUCTIONS/REMARKS:

CONTACT THE ABSA SAFETY CODES OFFICER BEFORE PLACING THE VESSEL/BOILER IN SERVICE.

VESSEL/BOILER TO BE INSTALLED IN ACCORDANCE WITH THE SAFETY CODES ACT AND REGULATIONS.

VERIFY THAT VESSEL/BOILER IS PROTECTED BY AN ACCEPTABLE ASME CODE PRESSURE RELIEF VALVE, OF ADEQUATE CAPACITY, SET AT NO MORE THAN MAXIMUM PRESSURE AUTHORIZED AND INSTALLED IN ACCORDANCE WITH THE SAFETY CODES ACT & REGULATIONS.

Safety Codes Officer: LORAN, TODD

Signature: 

REQUIREMENTS OF THE SAFETY CODES ACT AND THE REGULATIONS ISSUED THEREUNDER:

The owner or person in charge shall report all accidents involving a boiler, pressure vessel or pressure piping system to the district Safety Codes Officer immediately and shall send a full report in writing to the Administrator as required by the Act. No repairs or alterations may be made unless authorized by a Safety Codes Officer.

FB 758

ALBERTA MUNICIPAL AFFAIRS
 Alberta Boilers Safety Association
 200, 4208 - 97 Street
 Edmonton AB T6E 5Z9
 Partial/ Partiel

④ 409983
MANUFACTURER'S DATA REPORT
FOR PRESSURE VESSEL
DÉCLARATION DE CONFORMITÉ DU CONSTRUCTEUR
"D'APPAREILS SOUS PRESSION"

Upon shipment of a pressure vessel, this form fully and correctly filled in must be mailed to the office of the Chief Inspector in the province of installation in accordance with the regulations under the Act, governing the construction and installation of pressure vessels.

Au moment de l'expédition d'un appareil sous pression, ce formulaire complété correctement, doit être envoyé au bureau de l'inspecteur en chef de la province d'installation tel que prévu dans les règlements de la loi sur les appareils sous pression.

| | |
|---|---|
| Manufactured by <i>Construit par</i> | Name and address of Manufacturer/ Nom et adresse du constructeur Bilton Welding & Manufacturing Ltd 3704-58 Ave, Innisfail, AB T4G 1S8 |
| Manufactured for <i>Construit pour</i> | Name and address of Purchaser or Consignee/ Nom et adresse du client ou de son représentant Anadarko Canada Corporation 425-1 Street S.W., Calgary, AB T2P 4V4 |
| Ultimate owner <i>Utilisateur</i> | Name and address/ Nom et adresse Anadarko Canada Corporation 425-1 Street S.W., Calgary, AB T2P 4V4 |
| Location of installation <i>Lieu d'installation</i> | Address/ Adresse Stock- Manufacturers yard pending move |

Pressure vessel/ Appareil

| | | | |
|--|--|---|--|
| Type/ Genre Horizontal Vessel | Overall Length/ Longueur totale 10'-0" | Serial No./ N° de série 12572 | Year built/ Année de fabrication 2002 |
| Provincial Registration No. - C.R.N./ N° d'enregistrement provincial - N.E.C. K2109.12 | National Board No./ N° National Board | | Drawing No./ N° de dessin BWM-019-00 REV 4 |

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. Code.
 Les propriétés chimiques et physiques de toutes les composantes respectent les exigences des spécifications de matériaux de code ASME.

| | | | | |
|--|-----------------------------|----------------------|-----------------------------------|-----------------------------------|
| The design, construction and workmanship conform to CSA B51. <i>La conception, la construction et la façon sont conformes à ACNOR B51.</i> | ASME Section VIII | Division I | Addenda/Supplément 2001 | Code case No. N° de cas |
|--|-----------------------------|----------------------|-----------------------------------|-----------------------------------|

Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report.
 Les rapports partiels du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport:

| Names of parts/ Nom de la composante | Item No./ N° d'item | Manufacturer's Name/ Nom du constructeur | Identifying Stamp/ Estampe d'identification |
|--------------------------------------|---------------------|--|---|
| | | | |

Shell/ Viole

| Description | Material Matériau | Thickness Epaisseur | Corr. Allow. Surépals. de corr. | Diameter Diamètre | Longitudinal Joints Joints longitudinaux | | | P.W.H.T. Traitement therm | | Girth Joints Joints de circonférence | | Number of courses Nombre de sections |
|-------------|-------------------|---------------------|---------------------------------|-------------------|--|--------------|-----------------------|---------------------------|------------|--------------------------------------|--------------|--------------------------------------|
| | | | | | Type | R.T. Radiog. | Efficiency Efficacité | Temp. | Time Durée | Type | R.T. Radiog. | |
| Shell #1 | SA-516-70N | 3/8" | 1/8" | 8' ID | 1 | None | 0.7 | N/A | N/A | 1 | None | 1 |

Heads/ Tetes

| Description | Material Matériau | Min. Thckn. Epais minim. | Corr. Allow. Surép. Corr. | Crown. Radius Rayon couron. | Knuckle Radius Petit rayon | Ellipse Ratio Rapp. ellipse | Conical Apex Angle Angle conique | Hemisph. Radius Ray. Hémisph | Flat Diameter Diam. plat | Side to pressure Côte sous pression |
|-------------|-------------------|--------------------------|---------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------------|------------------------------|--------------------------|-------------------------------------|
| Head #1 | SA-516-70N | 0.313" | 1/8" | | | 2:1 | | | | Concave |
| Head #2 | SA-516-70N | 0.313" | 1/8" | | | 2:1 | | | | Concave |

| | | | | |
|--|---------------------|---|---------------------------|----------------------------------|
| Removable bolts used (describe other fastenings) <i>Boulons amovible utilisés (décrire tout autre attache)</i> | MANWAY NUTS / BOLTS | Mat'l Spec/ Spéc. du mat. SA-194 / SA-193 | Grade 2HM / B7M | Size/ Dimension 1 1/8" |
|--|---------------------|---|---------------------------|----------------------------------|

Pressure - Temperature/ Pression - température

| | | | | |
|--|--|--|---|--|
| Pressure Vessel Part <i>Partie de l'appareil</i> | Constructed for max. allowable working pressure <i>Construit pour une pression maximale de marche permise</i> | At max. temp. <i>A une temp. max.</i> | Min. Temp. (when less than -29°C) <i>Temp. min. (inférieure à -29°C)</i> | Test pressure (hydro-pneumatic or combination) <i>Pression d'épreuve (hydro-pneumatique ou combinaison)</i> |
| Shells / Heads | 50 psi (g) / 345 Kpa (g) | 200 F / 93 C | -20 F / -29 C | 75 psi (g) / 517 Kpa (g) |

Tube Section/ Faisceau tubulaire

| | | | | | |
|-----------------------------------|--------------------|---|---|---|----------------------------------|
| Tube sheet/ Plaque tubulaire | Material/ Matériau | Diameter/ Diamètre | Nominal Thickness Épaisseur nominale | Corr. Allow. Surépais. corrosion | Attachment Mode d'attachement |
| Tube material/ Matériau des tubes | Diameter/ Diamètre | Nominal Thickness (gauge) Épaisseur nominale (calibre) | Number/ Nbre | Type (Straight or U) Type (Droit ou U) | Heating Surface Surface de ch |

Jacket/ Chemise

| | | | | |
|----------------------------------|--|----------------------------------|---------------------------------------|----------------|
| Type of jacket/ Genre de chemise | Jacket closure Fermeture de chemise | Proof Test Pression d'épreuve | Heating Surface Surface de chauffe | Sketch/ Schéma |
|----------------------------------|--|----------------------------------|---------------------------------------|----------------|

Safety Valve Outlets/ Soupapes de sûreté

| | | | |
|----------------|-----------|-------------------|--|
| Number/ Nombre | Dimension | Location/ Endroit | Supplied and installed by others as per UG-125 |
|----------------|-----------|-------------------|--|

Nozzles and Openings/ Tubulures et ouvertures

| Purpose/ But | Number Nombre | Dimension | Type | Material Matériau | Nominal Thickness Épaisseur nominale | Reinforcement matériau de renfort | How attached Genre d'attaches | Location/ Endroit |
|--------------|------------------|-----------|-----------|----------------------|---|---|-------------------------------------|-------------------|
| Manway (M1) | 1 | 20" | 150# RFSO | SA-106-B/SA-105-N | 0.375" | N/A | UW-16.1C | Shell |
| Inlet (N1) | 1 | 6" | 150# RFWN | SA-106-B/SA-105-N | 0.432" | Inherent | UW-16.1 C | Head |
| Outlet (N2) | 1 | 6" | 150# RFWN | SA-106-B/SA-105-N | 0.432" | Inherent | UW-16.1 C | Head |
| Gauge (N3) | 1 | 4" | 150# RFWN | SA-106-B/SA-105-N | 0.337" | Inherent | UW-16.1 C | Shell |
| Pumpout (N4) | 1 | 3" | 150# RFWN | SA-106-B/SA-105-N | 0.300 | Inherent | UW-16.1 C | Shell |
| | | | | | | | | |
| | | | | | | | | |

Supports/ Supports

| | | | | |
|---|-----------------------------|--------------------------|---|--|
| Skirt/ Jupe Yes/ Oui No/ Non <input type="checkbox"/> <input checked="" type="checkbox"/> | Lugs/ Oreilles No./ Nbre | Legs/ Pieds No./ Nbre | Other/ Autres (Description) SADDLES | Attached/ Attaches (Where and How/ Méthode et endroit) SHELL / WELDED |
|---|-----------------------------|--------------------------|---|--|

Remarks/ Observations (Cubical capacity/ Volume)

Approximate Volume: 654 cu ft (19 cu m)
Impact tests exempt as per UG 20 (f) 1-5
Fabrication drawing: A422-1 rev 2

Certificate of Compliance/ Certificat de conformité

We certify that the statements made in this data report are correct and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standard CSA B51.

Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B51.

Provincial Registered Design
Enregistrement provincial K2109.12

Manufacturer
Constructeur Bilton Welding & Manufacturing Ltd.

Signature [Signature] Date 02/15/02

Certificate of Compliance - Field Work/ Certificat de conformité - Installation au chantier

We certify that the field installation of all parts of the vessel conforms with the requirements of Provincial Regulations.

Nous certifions que l'installation au chantier de toutes les composantes de l'appareil est conforme aux règlements provinciaux.

Installer's Name
Nom de l'installateur _____

Signature _____

Date _____

Certificate of Shop Inspection/ Certificat d'inspecteur en usine

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression employed by _____
employé par Alberta Boilers Safety Association

of/ de Alberta
have inspected the above vessel and state that to the best of my knowledge and belief, the manufacturer has constructed the vessel in accordance with the Provincial registration CRN k2109.12 and the requirements of standard CSA B51.

ai inspecté l'appareil précité et autant que je sache, crois que le constructeur a construit l'appareil en accord avec l'enregistrement provincial NEC _____ et les exigences de la norme ACNOR B51.

Inspector's Name
Nom de l'inspecteur TODD S. LORAN AB#135,
Signature [Signature] Date 02/02/15

Certificate of Field Inspection/ Certificat d'inspection - Installation au chantier

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression employed by _____
employé par _____

have inspected the items not covered by the Shop Inspection Certificate at the installation of the items and state that to the best of my knowledge and belief the construction and assembly of the items are in accordance with the Provincial Regulations.

ai inspecté les composantes non couvertes par le certificat d'inspection en u: l'installation de l'appareil et, autant que je sache, la construction et l'assemblé, l'appareil sont en accord avec les règlements provinciaux.

Inspector's Name
Nom de l'inspecteur _____

Signature _____ Date _____

CERTIFIED BY



INNISFAIL AB

1-888-227-4923

Welding & Manufacturing Ltd

M.A.W.P. 50 PSI 345 KPA AT 200°F 93°C

M.D.M.T. -20°F -29°C AT 50 PSI 345 KPA

SERIAL NO 12572 YEAR BUILT 2002

A.R.N.

Ⓐ 409983⁴⁰⁹⁹⁸³

C.R.N. K2109.12

DESC. 8' X 10' KNOCKOUT

SHELL THK 0.375" MIN. HD. THK 0.313" MIN.

CORR. ALLOW 0.125" P.W.H.T. N/A

MADE IN CANADA