



the pressure equipment safety authority

## Alberta Boilers Safety Association

#200, 4208 - 97 Street

Edmonton, Alberta, Canada T6E 5Z9

Tel: (780) 437-9100 / Fax: (780) 437-7787

February 04, 2005

Attention: Rana Khan  
ENERFLEX SYSTEMS LTD, EFX COMPRESSION  
4700 47 STREET SE  
CALGARY, AB T2B 3R1

Re: Design registration

The design submission, tracking number 2005-00505, originally received on January 21, 2005 was surveyed and accepted for registration as follows:

CRN : T0890.2

Accepted on: February 04, 2005

Reg Type: New Design

Drawing No. : V040738A SHT. 1, 2, & 3 Rev 1 As Noted

Description	MAWP	Design Temperature	MDMT
Internal Pressure	2413 kPa	149°C	-29°C

The registration is conditional on your compliance with the following notes:

-Optional PWHT holding time and temperature: 1 hr. at 1150°F. Per your e-mail of February 04, 2005.

An acceptance letter and a copy of the stamped drawing will be sent to you.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 368 or fax (780) 437-8797 or e-mail DeLeon@absa.ca.

Sincerely,

DE LEON, JESUS, P. Eng.  
Design Survey Engineer



88 6th Street, Suite 400  
New Westminster, BC V3L 5B3

Phone: (604) 660 - 6286  
Toll Free: 1-866-566-SAFE  
Fax: (604) 660 - 6215  
[www.safetyauthority.ca](http://www.safetyauthority.ca)

ENERFLEX COMPRESSION  
4700 47 STREET SE  
CALGARY AB T2B 3R1

**Date:** March 24, 2005  
**Account #:** 27095  
**Journal #:** 36117  
**Our File #:** 2920440

**Attn:** RANA KHAN

**Re:** Application for Design Registration

The design, as detailed in your, REF# V040738A, for a Pressure Vessel is accepted for registration as follows:

**Registered To:** ENERFLEX COMPRESSION **CRN:** T0890.21

**MDMT:** -20 deg F

**MAWT:** 300 deg F

**MAWP:** 350 psig

**Drawing #:** V040738A, 3 Sheets

**Drawing Revision:** 1

**Reviewer's Notes:**

Alberta issued CRN T0890.2 on February 04, 2005  
Notes per ABSA acceptance letter also apply to this CRN.

	<u>Amount</u>	<u>GST</u>	<u>Total</u>
Total fee for reviewing your design:	\$245.00	\$17.15	\$262.15
Amount received with submission:	\$0.00		

An invoice for \$262.15 will follow.

Contact me if you have any questions.

SUBHASH GUPTA  
(604) 660-6239  
[Subhash.Gupta@safetyauthority.ca](mailto:Subhash.Gupta@safetyauthority.ca)  
Design Engineer

**CC:**

## Saskatchewan

Corrections and  
Public Safety

Licensing and Inspections

## REGISTRATION APPROVAL

Boiler Pressure Vessel Safety  
330, 1855 Victoria Avenue  
REGINA, SK S4P 3V7TEL : (306)787-4522  
FAX : (306)787-8273

09-Feb-05

Enerflex Systems Ltd  
EFX Compression  
4700 47 Street SE  
Calgary, AB T2B 3R1**Our File** 35152 [ 0V]

ATTENTION : Rana Khan

With reference to your submission respecting the registration of the item below, for legal use in the province, please note we have surveyed, approved and registered this design as noted.

MANUFACTURER :	Enerflex Systems Ltd	
ITEM :	DRAWING NUMBER :	CRN :
Inlet/Filter Separator	V040738A Sht. 1, 2 & 3 Rev 1	T0890.23

An invoice covering survey and registration fees will be forwarded from our Codes and Standards Compliance Office.

We wish to point out that every vessel must be constructed strictly in accordance with the registered design, CSA B-51, and the Saskatchewan Boiler and Pressure Vessel Act and associated regulations.

In addition to stamping every vessel with the registration number given above and as required in CSA Code B51, a Manufacturer's Data Report must be forwarded to this office immediately at the time a vessel is shipped. Such forms may be obtained upon request.

Sincerely,

John Gosselink

Codes and Standards Compliance

REMARKS: CRN registered under reciprocal agreement.

#327 Reg. of Design

February 04, 2005

**Attention:** Rana Khan  
ENERFLEX SYSTEMS LTD, EFX COMPRESSION  
4700 47 STREET SE  
CALGARY, AB T2B 3R1

Re: Design registration

The design submission, tracking number 2005-00540, originally received on January 21, 2005 was surveyed and accepted for registration as follows:

**CRN :** T0895.2

**Accepted on:** February 04, 2005

**Reg Type:** New Design

**Drawing No. :** V040738B SHT. 1, 2, & 3 Rev 2 As Noted

Description	MAWP	Design Temperature	MDMT
Internal Pressure	2758 kPa	149°C	-29°C

**The registration is conditional on your compliance with the following notes:**


*-Optional PWHT holding time and temperature: 1 hr. at 1150°F. Per your e-mail of February 04, 2005.*

An acceptance letter and a copy of the stamped drawing will be sent to you.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 368 or fax (780) 437-8797 or e-mail DeLeon@absa.ca.

Sincerely,



DE LEON, JESUS, P. Eng.  
Design Survey Engineer



88 6th Street, Suite 400  
New Westminster, BC V3L 5B3

Phone: (604) 660 - 6286  
Toll Free: 1-866-566-SAFE  
Fax: (604) 660 - 6215  
www.safetyauthority.ca

ENERFLEX COMPRESSION  
4700 47 STREET SE  
CALGARY AB T2B 3R1

**Date:** March 24, 2005  
**Account #:** 27095  
**Journal #:** 36133  
**Our File #:** 2921169

**Attn:** RANA KHAN

**Re:** Application for Design Registration

The design, as detailed in your, REF# V040738B, for a Pressure Vessel is accepted for registration as follows:

**Registered To:** ENERFLEX COMPRESSION **CRN:** T0895.21

**MDMT:** -20 deg F

**MAWT:** 300 deg F

**MAWP:** 400 psig

**Drawing #:** V040738B

**Drawing Revision:** 2

**Reviewer's Notes:**

Alberta issued CRN T0895.2 on February 04, 2005  
Notes per ABSA acceptance letter also apply to this CRN.

	<u>Amount</u>	<u>GST</u>	<u>Total</u>
Total fee for reviewing your design:	\$245.00	\$17.15	\$262.15
Amount received with submission:	\$0.00		

An invoice for \$262.15 will follow.

Contact me if you have any questions.

SUBHASH GUPTA  
(604) 660-6239  
Subhash.Gupta@safetyauthority.ca  
Design Engineer

**cc:**

## Saskatchewan

Corrections and  
Public Safety

Licensing and Inspections

Boiler Pressure Vessel Safety  
330, 1855 Victoria Avenue  
REGINA, SK S4P 3V7TEL : (306)787-4522  
FAX : (306)787-9273

## REGISTRATION APPROVAL

09-Feb-05

Enerflex Systems Ltd  
EFX Compression  
4700 47 Street SE  
Calgary, AB T2B 3R1**Our File** 35153 [ 0 V]

ATTENTION : Rana Khan

With reference to your submission respecting the registration of the item below, for legal use in the province, please note we have surveyed, approved and registered this design as noted.

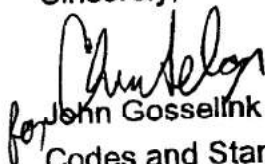
MANUFACTURER :	Enerflex Systems Ltd	
ITEM :	DRAWING NUMBER :	CRN :
Oil Separator	VD40738B Sht. 1, 2 & 3 Rev 2	T0895.23

An invoice covering survey and registration fees will be forwarded from our Codes and Standards Compliance Office.

We wish to point out that every vessel must be constructed strictly in accordance with the registered design, CSA B-51, and the Saskatchewan Boiler and Pressure Vessel Act and associated regulations.

In addition to stamping every vessel with the registration number given above and as required in CSA Code B51, a Manufacturer's Data Report must be forwarded to this office immediately at the time a vessel is shipped. Such forms may be obtained upon request.

Sincerely,

  
for John Gosselink

Codes and Standards Compliance

#327 Reg. of Design

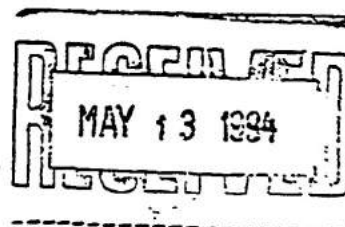
REMARKS: CRN registered under reciprocal agreement.



1994 05 10

ENERFLEX SYSTEMS LTD.  
7720 - 48th Street South East  
Calgary, AB T2C 2V6

Attention: John McDermott, C.E.T.



Dear Sir:

The drawings, specifications and/or information submitted on 1994-03-09, 03-15, 03-17 and 1994-03-23 are accepted for registration under the original CRN(s) as follows:

Reg. No.	Drawing No.	Design Pressure	Design Temperature	Fee
K-6363.2	VE93257-E Rev 2	1965 kPa	-29/38°C	\$60.00
Stamping of One Additional Drawing GST				\$6.00 \$0.42
K-6563.2	VE93257-E Rev 2	4517 kPa	-29/149°C	\$60.00
K-6566.2	10-655 Rev 2	4517 kPa	-29/149°C	\$60.00
Stamping of One Additional Drawing GST				\$6.00 \$0.42
K-7034.2	12-230 Rev 3	1566 kPa	-29/149°C	\$60.00
Stamping of One Additional Drawing GST				\$6.00 \$0.42

Enclosed are stamped prints for your reference together with our Invoice No. 25337 in the amount of \$259.26. This includes survey and registration fees, stamping of additional drawings plus GST on the stamping of the additional drawings.

Yours truly,

Larry O. Fraser, P.Eng.  
Design Survey Engineer  
LOF/bp  
Encl.



Province of  
British Columbia

Ministry of  
Municipal Affairs,  
Recreation and Housing  
BOILER AND PRESSURE VESSEL  
SAFETY BRANCH

Safety Engineering  
Services Division  
Suite 300, 750 Pacific Boulevard  
Vancouver  
British Columbia  
V6B 5E7  
Telephone: (604) 660-6250  
Fax: (604) 660-6215

YOUR FILE

OUR FILE H5301  
Account # 3756

TO: ENERFLEX SYSTEMS LTD.

7720 48TH STREET S.E.  
CALGARY,  
ALBERTA  
T2C 2V6

Date: 94.03.17  
Jnl #: 9917

Attn: JOHN McDERMOTT

DESIGN REGISTRATION


BRITISH COLUMBIA MIN. OF MUNICIPAL AFFAIRS SAFETY ENGINEERING SERVICES DIVISION
<u>REGISTERED</u>
Date MAR 18 1994
B.C. File H5301
C.R.N. K6363.21
Boiler/Pressure vessel Branch

Drawings/documents	Description	Purpose
VE5.4002 R.8	FUEL GAS FILTER  Registered for: 285 psi @ 100 F M.D.M.T.: -20 F	Design Registration:  B.C. File: H5301 C.R.N: K6363.21

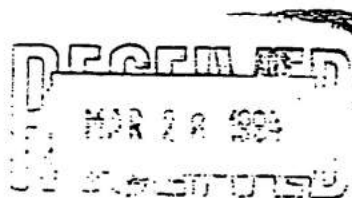
Remarks: This design has been registered as noted above. An invoice for survey will follow in the amount of \$ 30.00

This registration is for revisions to CRN K6363.21 which changed the thickness of the flat head to 1 in. and increased C1 to 1 1/2 in.

Yours truly,



E.J. Hurd  
Design Surveyor



E cb  
Encl:  
cc:





(306)787-4490  
FAX: (306)787-9273

## APPROVAL AND INVOICE

PLEASE DO NOT SEND REMITTANCE  
WITHOUT A COPY OF THIS INVOICE  
WHICH IS DUE WITHIN 30 DAYS

June 6, 1994

ENERFLEX SYSTEMS LTD.  
7720 - 48TH STREET S.E  
CALGARY, ALTA.  
T2C 2V6

#327 Reg. of Design  
Our File 21572

ATTENTION: John McDermott

Dear Sir:

With reference to your submission respecting the registration of Fuel Gas Filter, Drawing ~~85-4007~~ Rev 8 for legal use in the province, please note we have surveyed, approved and registered this design and allotted the same registration number CRN K6363.213.

We wish to point out that every vessel must be constructed strictly in accordance with the registered design.

The registration fee is \$60.00. This amount should be submitted in CANADIAN FUNDS ONLY at your earliest convenience. Please return one copy of this letter with your remittance.

In addition to stamping every vessel with the registration number given above and as required in C.S.A. Code B51, a Manufacturer's Data Report must be forwarded to this office immediately at the time any vessel is shipped. Such forms may be obtained upon request.

Sincerely,

Millar Iverson, P. Eng.  
Manager of Design and Registration



Community and Transportation Services  
Box 2703, Whitehorse, Yukon Y1A 2C6

**Public Safety Branch**

June 13, 2000

Enerflex Manufacturing  
4949 - 76<sup>th</sup> Avenue S.E.  
Calgary, AB T2C 3C6



Attention: Said Boudaoui

Dear Sir:

Enclosed is a copy of your drawing VE5.4002 which has been registered in the Yukon Territory under CRN K6363.2135Y.

The fee for design survey and registration is \$15.00.

Yours truly,

A handwritten signature in cursive script, appearing to read "Daniel Price".

Daniel Price  
Chief Mechanical Inspector

/tw

Enclosure



**BOILER AND PRESSURE VESSEL STATUS REPORT**

This status report form has been provided for you to report any changes to your boilers and/or pressure vessels. If you complete the form below, we would be pleased to make the required changes to our records and credit your account if credits are due.

**RE: Vessel (A)**                      1) \_\_\_\_\_ 2) \_\_\_\_\_ 3) \_\_\_\_\_  
**Serial No.**                              C250102A-1                              \_\_\_\_\_  
**CRN**                                      T1074.231                              \_\_\_\_\_

☒ The above vessel(s) was (were) sold. Please transfer the registration of the vessel(s) to:

Name of New Owner: PETROBANK ENERGY RESOURCES LTD.

Mailing Address: 2600, 240 – 4TH AVENUE S.W. CALGARY, AB T2P 4H4

Location of Vessel: LSD #13-29-20-21 W4M

Contact Person: \_\_\_\_\_ Tel: \_\_\_\_\_

Date of Sale: JUNE 08, 2005 P.O. No: EFX Job #040134

- ☐ The above vessel(s) was (were) removed from service on \_\_\_\_\_
- ☐ The above vessel(s) was (were) destroyed and disposed of as scrap material on \_\_\_\_\_ (Date). The Alberta Identification (A) Number has been obliterated.
- ☐ The above vessel(s) has (have) been relocated to \_\_\_\_\_
- ☐ The above vessel(s) has (have) been operating outside of the Province of Alberta since \_\_\_\_\_ (Date). Please remove from annual registration.
- ☐ The above vessel was returned to service on \_\_\_\_\_

Company Name: Enerflex Systems Ltd, EFX Compression

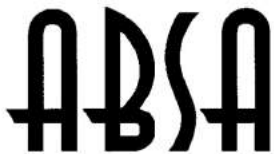
Position Title: Quality Control Supervisor Tel: (403) 720-1658

(Please print name) Larry Cowan E-Mail: Larry Cowan/EMFG/Enerflex@EFX

**Signature:**  Date: JUNE 08, 2005

**Note:** The owner of the boiler or pressure vessel is responsible for ensuring that the above equipment is inspected by Alberta Boilers Safety Association prior to its being returned to service in the Province of Alberta.

Please Return This Report To: **ALBERTA BOILERS SAFETY ASSOCIATION**  
**#200, 4208 - 97 Street, Edmonton, AB T6E 5Z9**  
**(780) 437-9100 Fax (780) 437-7787**

**BOILER AND PRESSURE VESSEL STATUS REPORT**

This status report form has been provided for you to report any changes to your boilers and/or pressure vessels. If you complete the form below, we would be pleased to make the required changes to our records and credit your account if credits are due.

**RE: Vessel (A)** 1) (A) 466661 2) \_\_\_\_\_ 3) \_\_\_\_\_  
**Serial No.** 0503101-2 \_\_\_\_\_  
**CRN** T1294.2 \_\_\_\_\_

☒ The above vessel(s) was (were) sold. Please transfer the registration of the vessel(s) to:

Name of New Owner: Petrobank Energy Resources

Mailing Address: 2600, 240- 4<sup>th</sup>. Avenue S.W Calgary, AB. T2P 4H4

Location of Vessel: Jump Bush AB. LSD# 13-29-20-21 W4M

Contact Person: \_\_\_\_\_ Tel: \_\_\_\_\_

Date of Sale: April 29/05 P.O. No: EFX Job # 050134

- ☐ The above vessel(s) was (were) removed from service on \_\_\_\_\_
- ☐ The above vessel(s) was (were) destroyed and disposed of as scrap material on \_\_\_\_\_ (Date). The Alberta Identification (A) Number has been obliterated.
- ☐ The above vessel(s) has (have) been relocated to \_\_\_\_\_
- ☐ The above vessel(s) has (have) been operating outside of the Province of Alberta since \_\_\_\_\_ (Date). Please remove from annual registration.
- ☐ The above vessel was returned to service on \_\_\_\_\_

Company Name: Enerflex Systems Ltd.

Position Title: Quality Inspector

Tel: [403] 720-4331

(Please print name) Glenn Moody

E-Mail: glenn.moody@enerflex.com

Signature: \_\_\_\_\_

Date: May 18, 2005

**Note:** The owner of the boiler or pressure vessel is responsible for ensuring that the above equipment is inspected by Alberta Boilers Safety Association prior to its being returned to service in the Province of Alberta.

Please Return This Report To: **ALBERTA BOILERS SAFETY ASSOCIATION**  
**#200, 4208 - 97 Street, Edmonton, AB T6E 5Z9**  
**(780) 437-9100 Fax (780) 437-7787**

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS  
(Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)  
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

A 531204

1. Manufactured and certified by ENERFLEX SYSTEMS LTD., EFX COMPRESSION, 4700 47 STREET SE CALGARY, AB T2B 3R1  
(Name and address of Manufacturer)

2. Manufactured for PETROBANK ENERGY RESOURCES LTD. 2600, 240 - 4TH AVENUE S.W. CALGARY, AB T2P 4H4  
(Name and address of Purchaser)

3. Location of installation JUMP BUSH, AB LSD #13-29-20-21 W4M  
(Name and address)

4. Type INLET/FILTER SEPARATOR 050134-01 T0890.213 V040738A REV 1 -- 2005  
(Horiz. or vert. tank) (Mfr's serial No.) (CRN) (Drawing no.) (Nat'l Bd. No.) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 2001  
Year

to 2003 -- --  
Addenda (Date) Code Case Nos. Special Service per UG 120(d)

6. Shell: SA-516-70N 0.625" 0.125" 3' 10.75" 7' 6"  
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: TYPE 1 FULL 100 N/A N/A TYPE 1 SPOT\* 1  
Long. (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp (°F) Time (hr) Girth (welded, Dbl., Sngl., Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Matl. SA-516-70N (b) Matl. SA-516-70N  
(Spec No., Grade) (Spec No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP	0.5625"	0.125"	--	--	2:1	--	--	--	CONCAVE
(b)	BOTTOM	0.5625"	0.125"	--	--	2:1	--	--	--	CONCAVE

If removable, bolts used (describe other fastenings) --  
(Matl., Spec. No., Gr., Size, No.)

9. MAWP 350 psi at max. temp. 300 °F  
Min. design metal temp. -20 °F at 350 psi. Hydro., pneu., or comb. test pressure HYDRO AT 455 psi.

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
INLET/OUTLET	2	12"	RFWN CL 300	SA105N/SA106B/SA234WPB	0.6880"	SA-516-70N	FIG UW-16.1 (C)	SHELL
INSP/LC(LS)/HLS	3	2"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
TI/PI	2	0.75"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
LOWER DUMP	1	1"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
DRAIN	1	2"	RFWN CL 300	SA105N/SA106B/SA234WPB	0.3430"	SA-516-70N	FIG UW-16.1 (C)	HEAD
UPPER DUMP	1	1"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
LG	2	0.75"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
DPI	1	0.75"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
PSV	1	1"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
FILT ACCESS/INSP	1	14"X18"	ELLIP CLOSURE	SA105N/SA106C	0.7500"	SA-516-70N	FIG UW-16.1 (C)	HEAD

11. Supports: Skirt YES Lugs 2 Legs N/A Other N/A Attached HEADS WELDED  
(Yes or No) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: NONE  
(Name of part, item number. Mfr's name and identifying stamp)

SERVICE: SWEET GAS PSV ON PIPE AS PER UG-125  
CONST. DRAWING NO.: V050134A REV 3 RADIOGRAPHY: \*SPOT PER UW-11(A)5(B)  
TESTING: NO CHARPY IMPACT TEST REQUIRED PER UG-20(F) 1 THROUGH 5 CUBIC CAPACITY: 110 CUBIC FEET

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization No. 30961 expires APRIL 15, 2005.  
Date APRIL 5, 2005 Co. name Enerflex Systems Ltd., EFX Compression Signed [Signature]  
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Enerflex Systems Ltd. EFX Compression at CALGARY, ALBERTA, CANADA  
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ALBERTA and employed by ABSA have inspected the component described in this Manufacturer's Data Report on 6 APRIL, 2005, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
Date APR 06 2005 Signed [Signature] Commissions 4213-A ALBERTA  
(Authorized Inspector) (Nat'l Board. (incl. endorsements) State, Prov. and No.)



FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS  
(Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)  
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

A 531230

1. Manufactured and certified by ENERFLEX SYSTEMS LTD., EFX COMPRESSION, 4700 47 STREET SE CALGARY, AB T2B 3R1  
(Name and address of Manufacturer)

2. Manufactured for PETROBANK ENERGY RESOURCES LTD. 2600, 240 - 4TH AVENUE S.W. CALGARY, AB T2P 4H4  
(Name and address of Purchaser)

3. Location of installation LSD #13-29-20-21 W4M  
(Name and address)

4. Type OIL SEPARATOR 050134-02 T0895.231 V040738B REV 2 -- 2005  
(Horiz. or vert. tank) (Mfr's serial No.) (CRN) (Drawing no.) (Nat'l Bd. No.) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 2001  
Year

to 2003 -- --  
Addenda (Date) Code Case Nos. Special Service per UG 120(d)

6. Shell: SA-516-70N 0.750" 0.125" 4' 4.5" 9' 6"  
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: TYPE 1 FULL 100 N/A N/A TYPE 1 SPOT\* 1  
Long. (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp (°F) Time (hr) Girth (welded, Dbl., Sngl., Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Matl. SA-516-70N (b) Matl. SA-516-70N  
(Spec No., Grade) (Spec No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP	0.6875"	0.125"	--	--	2:1	--	--	--	CONCAVE
(b)	BOTTOM	0.6875"	0.125"	--	--	2:1	--	--	--	CONCAVE

If removable, bolts used (describe other fastenings) --  
(Matl., Spec. No., Gr., Size, No.)

9. MAWP 400 300 psi at max. temp. 300 °F  
Min. design metal temp. -20 °F at 400 psi. Hydro., pneu., or comb. test pressure HYDRO AT 520 psi.

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
INLET	1	6"	RFWN CL 300	SA105N/SA106B/SA234WPB	0.562"	SA-516-70N	FIG UW-16.1 (C)	SHELL
OUTLET	1	8"	RFWN CL 300	SA105N/SA106B/SA234WPB	0.594"	SA-516-70N	FIG UW-16.1 (C)	SHELL
OIL OUT	1	3"	RFWN CL 300	SA105N/SA106B/SA234WPB	0.438"	SA-516-70N	FIG UW-16.1 (C)	SHELL
DRAIN	1	2"	RFWN CL 300	SA105N/SA106B/SA234WPB	0.436"	SA-516-70N	FIG UW-16.1 (C)	HEAD
OIL FILL	1	1"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
TW/TI/DPI/SCAV/PI	4	0.75"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
LG/LSD (EQUAL LINE)	1	1"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
INSPECTION	1	6"	STUD OUT CL 300	SA105N	3.250"	--	FIG UW-16.1 (C)	SHELL
OIL RETURN	1	1.5"	TOL	SA105N	CL 6000	--	FIG UW-16.1 (A)	SHELL
FILTER ACCESS/INSP	1	14"X18"	ELLIP CLOSURE	SA105N/SA106C	0.750"	SA-516-70N	FIG UW-16.1 (C)	HEAD

11. Supports: Skirt YES Lugs 2 Legs N/A Other N/A Attached HEADS WELDED  
(Yes or No) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: NONE  
(Name of part, item number, Mfr's name and identifying stamp)

SERVICE: SWEET GAS PSV ON PIPE AS PER UG-125  
CONST. DRAWING NO.: V050134B REV 2 RADIOGRAPHY: \*SPOT PER UW-11(A)5(B)  
TESTING: NO CHARPY IMPACT TEST REQUIRED PER UG-20(F) 1 THROUGH 5 CUBIC CAPACITY: 170 CUBIC FEET

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization No. 30961 expires APRIL 15, 2005.  
Date APRIL 5, 2005 Co. name Enerflex Systems Ltd., EFX Compression Signed [Signature]  
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Enerflex Systems Ltd. EFX Compression at CALGARY, ALBERTA, CANADA.  
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ALBERTA and employed by ABSA have inspected the component described in this Manufacturer's Data Report on 13 APRIL, 2005, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
Date APR 13 2005 Signed [Signature] Commissions #213-A ALBERTA  
(Authorized Inspector) (Nat'l Board. (incl. endorsements) State, Prov. and No.)

**FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS** (A) 531 229  
 (Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only) S11, NS4F  
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1 (e)(v)

1. Manufactured and certified by ENERFLEX Systems Ltd., EFX Compression, 4700 47 STREET SE CALGARY, AB T2B 3R1  
 (Name and address of Manufacturer)  
 2. Manufactured for PETROBANK ENERGY RESOURCES LTD. 2600, 240 - 4TH AVENUE S.W. CALGARY, AB T2P 4H4  
 (Name and address of Purchaser)  
 3. Location of installation LSD #13-29-20-21 W4M  
 (Name and address)

4. Type FUEL GAS SCRUBBER 050134-03 K-6363.2135Y VE5.4002 REV 8 -- 2005  
 (Horiz. or vert. tank) (Mfr's serial No.) (CRN) (Drawing no.) (Nat'l Bd. No.) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 2001  
 Year

to 2003 -- --  
 Addenda (Date) Code Case Nos. Special Service per UG 120(d)

6. Shell: SA-106-B 0.322" 0.0625" 0' 7.98" 4' 3.5"  
 Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: SMLS N/A 100 N/A N/A TYPE 4/CORNER N/A 1  
 Long. (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp (°F) Time (hr) Girth (welded, Dbl., Sngl., Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Matl. SA-105N (b) Matl. SA-516-70N  
 (Spec No., Grade) (Spec No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP	1.125"	0.0625"	--	--	--	--	--	13.50"	FLAT
(b)	BOTTOM	1.000"	0.0625"	--	--	--	--	--	14.57"	FLAT

If removable, bolts used (describe other fastenings) SA193-B7; 0.750" x 5"; 8  
 (Matl., Spec. No., Gr., Size, No.)

9. MAWP 285 psi at max. temp. 100 °F  
 Min. design metal temp. -20 °F at 285 psi. Hydro., pneu., or comb. test pressure HYDRO AT 428 psi.

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
INLET	1	1.5"	TOL	SA105N	CL 3000	--	FIG UW-16.1 (A)	SHELL
OUTLET	1	1.5"	NPTM	SA-106-B	0.281"	--	FIG UW-16.1 (C)	SHELL
LEVEL SWITCH	1	2"	TOL	SA105N	CL 3000	--	FIG UW-16.1 (A)	SHELL
LEVEL CONTROL	1	2"	TOL	SA105N	CL 3000	--	FIG UW-16.1 (A)	SHELL
BOTTOM DRAIN/INSP	1	1"	CPLG/3000#	SA-105N/SA-106-B	0.250"	--	FIG UW-16.1 (C)	SHELL
LEVEL GAUGE	2	0.75"	TOL	SA105N	CL 3000	--	FIG UW-16.1 (A)	SHELL
CLEAN OUT/INSP	1	8"	RFSO	SA105N	CL 150	--	DBL FILLET	HEAD
VENT	1	0.75"	TOL	SA105N	CL 3000	--	FIG UW-16.1 (A)	HEAD
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

11. Supports: Skirt NO Lugs N/A Legs N/A Other SOLE PLATE Attached BOTTOM HEAD BOLTED  
 (Yes or No) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: NONE  
 (Name of part, item number, Mfr's name and identifying stamp)

SERVICE: SWEET GAS PSV ON PIPE AS PER UG-125 (G)  
 CONST. DRAWING NO.: V050134C REV 1 RADIOGRAPHY: NONE PER UW-11(C)  
 TESTING: NO CHARPY TEST REQUIRED PER UG-20(F) 1 THROUGH 5 CUBIC CAPACITY: 1.5 CUBIC FEET

**CERTIFICATE OF SHOP COMPLIANCE**

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization No. 30961 expires APRIL 15, 2005  
 Date APRIL 11, 2005 Co. name Enerflex Systems Ltd., EFX Compression Signed [Signature]  
 (Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by Enerflex Systems Ltd, EFX Compression at CALGARY, ALBERTA, CANADA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ALBERTA and employed by ABSA have inspected the component described in this Manufacturer's Data Report on 12 APRIL, 2005, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
 Date APR 12 2005 Signed [Signature] Commissions #213-A ALBERTA  
 (Authorized Inspector) (Nat'l Board. (incl. endorsements) State, Prov. and No.)

**FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS**  
**As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1**

P.O.#: 0560524

1. Manufactured and certified by HENRY TECHNOLOGIES LIMITED, 36 CRAIG STREET, BRANTFORD, ONTARIO, CANADA N3T 5T6  
 (Name and address of Manufacturer)

Manufactured for ENERFLEX SYSTEMS LTD., 4700-47TH STREET SE, CALGARY, AB T2B 3R1  
 (Name and address of Purchaser)

3. Location of installation UNKNOWN  
 (Name and address)

4. Type: HORIZONTAL HEAT EXCHANGER C250102A-1 T1074.231 R250102A / 0 N/A 2005  
 (Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. ASME Code, Section VIII, Div. 1 2004 EDITION 1518-5 -  
 Edition and Addenda (date) Code Case No. Special Service per UG-120(d)

Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 165'-1/8"

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment					
No	Diameter, in	Length (ft & in.)	Spec./Grade or Type	Nom	Corr	Type	Full	Spot	None	Eff	Type	Full	Spot	None	Eff	Temp	Time
1	14" O.D.	165' 1/8"	SA-106 GR B	3/8"	1/16"	S	NONE		85%	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

7. Heads: (a) - (b) -  
 (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min	Corr.	Crown	Knuckle					Convex	Concave	Type	Full	Spot
(a)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) -  
 (Mat'l Spec. No., Grade, size, No.)

8. Type of jacket - Jacket closure -  
 (Describe as ogee & weld, bar, etc.)

If bolt, give dimensions - If bolted, describe or sketch.

MAWP 400 - psi at max. temp. 300 - °F Min. design metal temp. -20 °F at 400 psi.  
 (internal) (external) (internal) (external)

10. Impact test NO PER UCS-66 at test temperature of - °F  
 (Indicate yes or no and the component(s) impact tested)

11. ~~Hydro.~~ pneu. ~~or comp.~~ test press. 440 PSIG Proof test -

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA 516-70 13-1/4" 1-1/4" 1/16" WELDED  
 Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)

- - - - -  
 Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: SA 179 SMLS 5/8" 0.049" 226 STRAIGHT  
 Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): - (b) Overall length (ft & in.): -

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment					
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full.	Spot.	None	Eff.	Type	Full.	Spot.	None	Eff.	Temp.	Time
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

15. Heads: (a) SA 516 70 (b) SA 516 70  
 (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min	Corr	Crown	Knuckle					Convex	Concave	Type	Full	Spot
(a)	END	0.2938"	1/16"	-	-	2:1	-	-	-	-	YES	-	-	-
(b)	END	0.2938"	1/16"	-	-	2:1	-	-	-	-	YES	-	-	-

If removable, bolts used (describe other fastening) STUDS: SA 193 B7, 5/8"-11 UNC, QTY = 20/HD., NUTS: SA 194 2H  
 (Mat'l Spec. No., Grade, Size, No.)



16. MAWP 150 - psi at max. temp. 300 - °F Min. design metal temp. -20 °F at 150 psi.  
(internal) (external) (internal) (external)

17. Impact test NO PER UCS-66 at test temperature of - °F  
(Indicate yes or no and the component(s) impact tested)

18. ~~Hydro.~~ pneu. ~~on-site~~ test press. 165 PSI. Proof test -

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
S/S CONN.	2	4"	W.E.	SA-106 GR B	SA 105N	SCH.80	1/16"	-	WELDED	WELDED	SIDE
S/S CONN.	2	3/4"	CPLG.	SA 105N	-	6000LB	1/16"	-	WELDED	-	TOP/BTM
-	-	-	-	-	-	-	-	-	-	-	-
T/S CONN.	2	6"	WE.	SA-106 GR B	SA 105N	SCH.40	1/16"	-	WELDED	WELDED	ENDS
T/S CONN.	2	3/4"	CPLG.	SA 105N	-	6000LB	1/16"	-	WELDED	-	END
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

20. Supports: Skirt NO Lugs - Legs - Others - Attached -  
(Yes or No) (No.) (No.) (Describe) (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:  
(List the name of part, item number, mfg's. name and identifying number)

22. Remarks: UG-46(a)

#### CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1,

U Certificate of Authorization No. 29646 Expires Jun-05-2006

Date Mar. 15/05 Name HENRY TECHNOLOGIES LIMITED Signed Michael D. Smith  
(Manufacturer) (Representative)

#### CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ONTARIO and employed by T.S.S.A. of ONTARIO have inspected the pressure vessel described in this Manufacturer's Data Report on Mar. 8, 2005 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date Mar. 18, 05 Signed Mingmei Commissions ON33  
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

#### CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1,

U Certificate of Authorization No. - Expires -

Date - Name - Signed -  
(Assembler) (Representative)

#### CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of - and employed by - of - have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items -, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of - psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date - Signed - Commissions -  
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS  
(Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)  
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

(A) 466661  
SI, NSAF  
(5)

1. Manufactured and certified by AIR COOLED EXCHANGERS, INC. ONE ACE AVE. BROKEN ARROW, OK. 74013  
(Name and address of manufacturer)

2. Manufactured for ENERFLEX SYSTEMS LTD 4700-47 ST SE CALGARY, ALBERTA T2B 3R1  
(Name and address of purchaser)

3. Location of installation UNKNOWN  
(Name and address)

4. Type VERTICAL 0503101-2 T1294.2 05031-H2-1 3304 2005  
(Horiz or vert. tank) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII Division 1 2001  
Year

to A2003 NONE NONE  
Addenda (Date) Code Case Nos. Special Service per UG-120(d)

6. Shell: SA-516-70 .875" .125" 7.75" 50.25"  
Mat'l. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: SINGLE BEVEL NA NA 1175 1 NA NA NA  
Long. (Welded, Dbl., Singl. Lap, Butt) R.T. (Spot or Full) EH. (%) H.T. Temp. (°F) Time (hr) Girth (Welded, Dbl., Singl. Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Mat'l. SA-516-70NORM (b) Mat'l. SA-516-70NORM  
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP & BTM	.875"	.125"	NA	NA	NA	NA	NA	8"	NA
(b)	ENDS	.75"	.125"	NA	NA	NA	NA	NA	8"	NA

if removable, bolts used (describe other fastenings) \_\_\_\_\_

SERVICE: AC

(Mat'l., Spec. No., Gr., Size, No.)

9. MAWP 400 psi at max. temp. 350 °F  
Min. design metal temp. -46 °F at 400 psi. Hydro., pneu., or comb. test pressure 520 psi.

10. Nozzles, inspection and safety valve openings: SAFETY RELIEF VALVE TO BE PROVIDED ELSEWHERE BY OTHERS

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Mat'l.	Nom. Thk.	Reinforcement Mat'l.	How Attached	Location
IN/OUTLET	2	8"	PIPE	SA-333-6	XH	MATERIAL & WELD	UW16.1(a)	-----
	2	8"	RFWN	SA-350-LF2	300#	MATERIAL & WELD	WELDED	-----
	1	1"	CPLG	SA-350-LF2	3000#	MATERIAL & WELD	UW16.1(a)	-----

11. Supports: Skirt NO Lugs 2 Legs 0 Other NA Attached TUBESHEET/WELDED  
(Yes or no) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: CONSTRUCTED IN CONFORMANCE WITH APPENDIX 28, IMPACT EXEMPT PER UCS-68(C)  
(Name of part, item number, Mfg's. name and identifying stamp)

TUBES:(42)SA-214 X 1" OD X .060" MW X 25' LONG STRAIGHT TYPE

PLUGS:(84)SA-350LF2 SHOULDER

RT-100% PIPE TO FLANGE WELDS - PER CUST REQUEST

PSV SET @ 350 PSI SCFM 19928

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization No. 7616 expires 4/30, 2008  
Date 4-8-05 Co. name AIR COOLED EXCHANGERS, INC. Signed Rain  
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by AIR COOLED EXCHANGERS, INC. at BROKEN ARROW,  
I the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of OKLAHOMA and employed by ONEBEACON AMERICA INSURANCE CO. BOSTON, MASS.

have inspected the component described in this Manufacturer's Data Report on 4/8, 2005, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 5/17/2005 Signed [Signature] Commissions NB 1115B (A) OK 646  
(Authorized Inspector) (Nat'l. Board (incl. endorsements), State, Prov. and No.)

VOLUME = 3 61 ft<sup>3</sup>

**FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS**  
**(Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)**  
**As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1**

1. Manufactured and certified by AIR COOLED EXCHANGERS, INC. ONE ACE AVE. BROKEN ARROW, OK. 74013  
(Name and address of manufacturer)

2. Manufactured for ENERFLEX SYSTEMS LTD 4700-47 ST SE CALGARY, ALBERTA T2B 3R1  
(Name and address of purchaser)

3. Location of installation UNKNOWN  
(Name and address)

4. Type VERTICAL 0503101-2 T1294.2 05031-H2-1 3304 2005  
(Horiz or vert., tank) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII Division 1 2001  
Year

to A2003 NONE NONE  
Addenda (Date) Code Case Nos. Special Service per UG-120(d)

**Tube & Plug**

6. Shell: SA-516-70 .875" .125" 7.75" 50.25"  
Mat'l. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: SINGLE BEVEL NA NA 1175 1 NA NA NA  
Long. (Welded, Dbl., Sngl. Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp. (°F) Time (hr) Girth (Welded, Dbl., Sngl. Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Mat'l. SA-516-70NORM (b) Mat'l. SA-516-70NORM  
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP & BTM	.875"	.125"	NA	NA	NA	NA	NA	8"	NA
(b)	ENDS	.75"	.125"	NA	NA	NA	NA	NA	8"	NA

if removable, bolts used (describe other fastenings) \_\_\_\_\_

**SERVICE:** AC (Mat'l., Spec. No., Gr., Size, No.)

9. MAWP 400 psi at max. temp. 350 °F  
Min. design metal temp. -46 °F at 400 psi. Hydro., ~~prev.~~ or comb. test pressure 520 psi.

10. Nozzles, inspection and safety valve openings: SAFETY RELIEF VALVE TO BE PROVIDED ELSEWHERE BY OTHERS

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Mat'l.	Nom. Thk.	Reinforcement Mat'l.	How Attached	Location
IN/OUTLET	2	8"	PIPE	SA-333-6	XH	MATERIAL & WELD	UW16.1(a)	-----
	2	8"	RFWN	SA-350-LF2	300#	MATERIAL & WELD	WELDED	-----
	1	1"	CPLG	SA-350-LF2	3000#	MATERIAL & WELD	UW16.1(a)	-----

11. Supports: Skirt NO Lugs 2 Legs 0 Other NA Attached TUBESHEET/WELDED  
(Yes or no) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: CONSTRUCTED IN CONFORMANCE WITH APPENDIX 28, IMPACT EXEMPT PER UCS-68(C)

(Name of part, item number, Mfg's. name and identifying stamp)

TUBES:(42)SA-214 X 1" OD X .060" MW X 25' LONG STRAIGHT TYPE

PLUGS:(84)SA-350LF2 SHOULDER

RT-100% PIPE TO FLANGE WELDS - PER CUST REQUEST

**CERTIFICATE OF SHOP COMPLIANCE**

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization No. 7616 expires 4/30, 2008  
Date 4-8-05 Co. name AIR COOLED EXCHANGERS, INC. Signed Rain  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by AIR COOLED EXCHANGERS, INC. at BROKEN ARROW,  
I the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of OKLAHOMA and employed by ONEBEACON AMERICA INSURANCE CO. BOSTON, MASS.

have inspected the component described in this Manufacturer's Data Report on 7/8, 2005, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 5/17/2005 Signed [Signature] Commissions NB 1115B (A) OK 646  
(Authorized Inspector) (Nat'l. Board (incl. endorsements), State, Prov. and No.)

U

W

RT-2

MAWT

350

PSIG

300

WWT

-20

PS

350

050134-01

Y

2005

T0890.231

U

0.125

0.625

U

516-70N

0.5625

U

516-70N

(A)

531204



CERTIFIED BY

EFX COMPOS

EXETER MAGNETA CANADA

U

W

RT-2

MAWP

400

PSIG

300

WMP

20

PSIG

400

NO

050134-02

YEAR

2005

CH

T0895.231

W

0.125

SE

0.750

IN

516-70N

W

0.6875

IN

516-70N

ITEM NO

(A)

531230

CERTIFIED BY

EFX Compression

CALSAPE, ALBERTA, CANADA

U

W

MAWP 285

PSIG 100

MDMT -20

PSIG 285

SA 050134-03 YEAR 2005

CRN K6363.2135Y SA 0.0625 III

SH TH 0.322 IN NUT SA 106-B

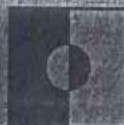
DD IN 1.00 IN NUT SA 516-70N

(A) 531229





CERTIFIED BY



**HENRY**

TECHNOLOGIES LIMITED

BRANTFORD

CANADA

MADE IN  
CANADA

SHELL MAWP	400	PSI	at	300	°F	MDMT	-20	°F	at	400	MAWP
											PSI
TUBES MAWP	1750	PSI	at	300	°F	MDMT	-20	°F	at	1750	MAWP
											PSI

SERIAL C2501021-1

TAG

DATE 2005

GRN 11074.231

MODEL AK-14168-100





3304

W  
HT

CRN T1294.2

400  
-46  
0503101-2  
4-C5

350  
400  
A156  
AC





# CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

In accordance with the provisions of the Safety Codes Act

Shop Construction ☒; Field Construction ☐; Final Data Report ☐;  
Partial Data Report ☐ (from one ABSA-authorized Contractor to another ABSA-authorized Contractor).

## Complete both sides of this Form

1. Constructed By: **Enerflex Systems Ltd, EFX Compression** Owner's Job No: **050134**  
(Name of ABSA authorized primary contractor or subcontractor)  
**4700 – 47th St. SE, Calgary AB, T2B 3R1**  
(Address)

Alberta Quality Program No. AQP-**1044** Expiry Date: **APRIL 15, 2005**

2. Constructed For: **N/A**  
(Name of primary contractor if different from above)

**N/A**

(Address)

Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**  
(Required when the primary contractor undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

3. Owner: **PETROBANK ENERGY RESOURCES LTD. 2600, 240 – 4TH AVENUE S.W. CALGARY, AB T2P 4H4**  
(Name and address)

**LSD #13-29-20-21 W4M**

(Location of installation)

Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**  
(Required when the owner undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

4. Piping Design Alberta Registration No.: PP- **N/A**  
(Required if aggregate piping volume is over 0.5m<sup>3</sup>)

5. WP No.: **WP-807.2**; Company: **Enerflex Systems Ltd.**; Owner's WP No. (If used): **WP- N/A**  
(Alberta Registration No.) (Alberta Registration No.)

WPS No(s). used: **ESL-101/103/113/121**; Owner's WPS No(s). (If used): **N/A**

6. Code: ASME B31.1 Non Boiler External Piping ☐; ASME B31.1 Boiler External Piping ☐;  
ASME B31.3 ☒ - Service category: Normal ☒, D ☐, M ☐, High Pressure ☐; B31.5 ☐; B31.9 ☐.

Drawing No. Rev. No. Line No.	Fluid (Air/Stm. Etc.)	Des. Press. PSI	Des. Temp. °F	Test Press. PSI	Test Medium	Pipe Mat'l Spec. & Grade	C.A. mm	Pipe NPS & Schedule	Flange Material & Rating	PWHT/ Preheat Temp. °F	R.T. %	Other NDE
1D1	GAS	655	300	1125	H <sub>2</sub> O	SA106B	1/16"	6"STD	SA105N	50	10	VIS
									300#			
1D2	GAS	655	300	1125	H <sub>2</sub> O	SA106B		8"STD	SA105N	50	10	VIS
						SA333-6			300#			
1D3	GAS	655	300	1125	H <sub>2</sub> O	SA333-6		8"STD	SA105N	50	10	VIS
									SA350LF2			
									300#			
1S1	GAS	655	300	1125	H <sub>2</sub> O	SA333-6		12"STD	SA350LF2	50	10	VIS
						SA106B		8"STD	SA105N			
									300#			
1S2	GAS	655	300	1125	H <sub>2</sub> O	SA106B		12"STD	SA105N	50	10	VIS
									300#			



# CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

In accordance with the provisions of the Safety Codes Act

Shop Construction ☒; Field Construction ☐; Final Data Report ☐;  
Partial Data Report ☐ (from one ABSA-authorized Contractor to another ABSA-authorized Contractor).

## Complete both sides of this Form

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(Name of ABSA authorized primary contractor or subcontractor)  
**4700 - 47th St. SE, Calgary AB, T2B 3R1**  
(Address)
- Alberta Quality Program No. AQP-**1044** Expiry Date: **APRIL 15, 2005**
2. Constructed For: **N/A**  
(Name of primary contractor if different from above)  
**N/A**  
(Address)
- Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**  
(Required when the primary contractor undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)
3. Owner: **PETROBANK ENERGY RESOURCES LTD. 2600, 240 - 4TH AVENUE S.W. CALGARY, AB T2P 4H4**  
(Name and address)  
**LSD #13-29-20-21 W4M**  
(Location of installation)
- Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**  
(Required when the owner undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)
4. Piping Design Alberta Registration No.: PP- **N/A**  
(Required if aggregate piping volume is over 0.5m<sup>3</sup>)
5. WP No.: **WP-807.2**; Company: **Enerflex Systems Ltd.**; Owner's WP No. (If used): **WP- N/A**  
(Alberta Registration No.) (Alberta Registration No.)  
WPS No(s). used: **ESL-101/103/113/121**; Owner's WPS No(s). (If used): **N/A**
6. Code: ASME B31.1 Non Boiler External Piping ☐; ASME B31.1 Boiler External Piping ☐;  
ASME B31.3 ☒ - Service category: Normal ☒, D ☐, M ☐, High Pressure ☐; B31.5 ☐; B31.9 ☐.

Drawing No. Rev. No. Line No.	Fluid (Air/Stm. Etc.)	Des. Press. PSI	Des. Temp. °F	Test Press. PSI	Test Medium	Pipe Mat'l Spec. & Grade	C.A. mm	Pipe NPS & Schedule	Flange Material & Rating	PWHT/ Preheat Temp. °F	R.T. %	Other NDE
AC1	GAS	655	300	1125	H <sub>2</sub> O	SA333-6	1/16"	8"STD	SA105N	50	10	VIS
									SA350LF2			
									300#			
AC2	GAS	655	300	1125	H <sub>2</sub> O	SA106B		4"STD	SA105N	50	10	VIS
						SA333-6		8"STD	SA350LF2			
									300#			
BP1	GAS	655	300	1125	H <sub>2</sub> O	SA106B		2"XS	SA105N	50	10	VIS
								3"STD	300#			
BP2	GAS	655	300	1125	H <sub>2</sub> O	SA106B		2"XS	SA105N	50	10	VIS
									300#			
HP1	GAS	230	300	450	H <sub>2</sub> O	SA333-6		6"STD	SA105N	50	10	VIS
									SA350LF2			
									150#			



# CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

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(Address)

Alberta Quality Program No. AQP-**1044** Expiry Date: **APRIL 15, 2005**

2. Constructed For: **N/A**  
(Name of primary contractor if different from above)

**N/A**

(Address)

Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**

(Required when the primary contractor undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

3. Owner: **PETROBANK ENERGY RESOURCES LTD. 2600, 240 - 4TH AVENUE S.W. CALGARY, AB T2P 4H4**  
(Name and address)

**LSD #13-29-20-21 W4M**

(Location of installation)

Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**

(Required when the owner undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

4. Piping Design Alberta Registration No.: PP- **N/A**

(Required if aggregate piping volume is over 0.5m<sup>3</sup>)

5. WP No.: **WP-807.2**; Company: **Enerflex Systems Ltd.**; Owner's WP No. (If used): **WP- N/A**  
(Alberta Registration No.) (Alberta Registration No.)

WPS No(s). used: **ESL-101/103/113/121**; Owner's WPS No(s). (If used): **N/A**

6. Code: ASME B31.1 Non Boiler External Piping ☐; ASME B31.1 Boiler External Piping ☐;  
ASME B31.3 ☒ - Service category: Normal ☒, D ☐, M ☐, High Pressure ☐; B31.5 ☐; B31.9 ☐.

Drawing No Rev. No. Line No.	Fluid (Air/Stm. Etc.)	Des. Press. PSI	Des. Temp. °F	Test Press. PSI	Test Medium	Pipe Mat'l Spec. & Grade	C.A. mm	Pipe NPS & Schedule	Flange Material & Rating	PWHT/ Preheat Temp. °F	R.T. %	Other NDE
OL1	GAS	655	300	1125	H <sub>2</sub> O	SA106B	1/16"	3"STD	SA105N	50	10	VIS
									300#			
OL2	GAS	655	300	1125	H <sub>2</sub> O	SA106B		3"STD	SA105N	50	10	VIS
								4"STD	300#			
OL3	GAS	655	300	1125	H <sub>2</sub> O	SA106B		3"STD	SA105N	50	10	VIS
									300#			
OL4	GAS	655	300	1125	H <sub>2</sub> O	SA106B		3"STD	SA105N	50	10	VIS
									300#			
OL5	GAS	655	300	1125	H <sub>2</sub> O	SA106B		3"STD	SA105N	50	10	VIS
									300#			
OL6	GAS	655	300	1125	H <sub>2</sub> O	SA106B		3"STD	SA105N	50	10	VIS
									300#			



# CONSTRUCTION DATA REPORT FOR PIPING SYSTEMS

In accordance with the provisions of the Safety Codes Act

Shop Construction ☒; Field Construction ☐; Final Data Report ☐;  
Partial Data Report ☐ (from one ABSA-authorized Contractor to another ABSA-authorized Contractor).

## Complete both sides of this Form

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(Name of ABSA authorized primary contractor or subcontractor)  
**4700 - 47th St. SE, Calgary AB, T2B 3R1**  
(Address)

Alberta Quality Program No. AQP-**1044** Expiry Date: **APRIL 15, 2005**

2. Constructed For: **N/A**  
(Name of primary contractor if different from above)  
**N/A**  
(Address)

Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**  
(Required when the primary contractor undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

3. Owner: **PETROBANK ENERGY RESOURCES LTD. 2600, 240 - 4TH AVENUE S.W. CALGARY, AB T2P 4H4**  
(Name and address)  
**LSD #13-29-20-21 W4M**  
(Location of installation)

Alberta Quality Program No. AQP- **N/A** Expiry Date: **N/A**  
(Required when the owner undertakes some/all of the quality functions, e.g., Mat'l supply, NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

4. Piping Design Alberta Registration No.: PP- **N/A**  
(Required if aggregate piping volume is over 0.5m<sup>3</sup>)

5. WP No.: **WP-807.2**; Company: **Enerflex Systems Ltd.**; Owner's WP No. (If used): **WP- N/A**  
(Alberta Registration No.) (Alberta Registration No.)  
WPS No(s). used: **ESL-101/103/113/121**; Owner's WPS No(s). (If used): **N/A**

6. Code: ASME B31.1 Non Boiler External Piping ☐; ASME B31.1 Boiler External Piping ☐;  
ASME B31.3 ☒ - Service category: Normal ☒, D ☐, M ☐, High Pressure ☐; B31.5 ☐; B31.9 ☐.

Drawing No. Rev. No. Line No.	Fluid (Air/Stm. Etc.)	Des. Press. PSI	Des. Temp. °F	Test Press. PSI	Test Medium	Pipe Mat'l Spec. & Grade	C.A. mm	Pipe NPS & Schedule	Flange Material & Rating	PWHT/ Preheat Temp. °F	R.T. %	Other NDE
OL7	GAS	655	300	1125	H <sub>2</sub> O	SA106B	1/16"	3"STD	SA105N	50	10	VIS
									300#			
SD1	GAS	655	300	1125	H <sub>2</sub> O	SA106B		2"XS	SA105N	50	10	VIS
						SA333-6			SA350LF2			
									300#			
SD2	GAS	655	300	1125	H <sub>2</sub> O	SA106B		2"XS	SA105N	50	10	VIS
						SA333-6			SA350LF2			
									300#			
FG/SG/1A	GAS	150	100	165	N	SA106B		2"XS	--	--	--	VIS
								1"XS				
								1-1/2"XS				

Partial Data Reports, properly identified and certified by ABSA-authorized contractors, as listed below are attached to and form part of this Data Report ☐

No.	Line No.	Spool No.	Drg. No. (with Rev. No.)	Contractor (Name)	AQP No.	Expiry date

**Remarks:** Provide additional comments including noting any code work that was not performed by the ABSA- authorized contractor(s) supplying this document as a Partial Data Report but which must be completed by another ABSA-authorized contractor who assumes overall responsibility for conformance with the Safety Codes Act & Regulations and applicable ASME Codes, and who assures that all required code work is completed prior to putting the piping system into service.

### Endorse certificate 'A' or 'B'

#### A. CERTIFICATE OF COMPLIANCE

Signed by the subcontractor when supplying this certificate as a  
Partial Data Report

We certify that the statements in this Data Report are correct and that materials, construction and workmanship of the piping fabrication conform to the registered quality system and the applicable Piping code(s).

Date: N/A N/A  
Subcontractor  
N/A N/A  
Print Authorized Representative's Name Signature

**This certificate is not valid unless it forms part of a  
Final Data Report signed by Primary Contractor**

#### B. CERTIFICATE OF COMPLIANCE

Signed by the primary contractor when supplying this certificate as a  
Final Data Report

We certify that the statements in this Data Report are correct and that piping job no. **050134**

described in this Data Report was constructed in accordance with the Province of Alberta Safety Codes Act and Regulations, and applicable ASME Piping Code(s).

Date: \_\_\_\_\_ Enerflex Systems Ltd.  
Primary Contractor

\_\_\_\_\_  
Print Authorized Representative's Name Signature

### CERTIFICATE OF INSPECTION

I, the undersigned, employed by \_\_\_\_\_ have inspected the piping  
job no. \_\_\_\_\_ described in this Construction Data Report and state that, to the best of my  
knowledge and belief, the Contractor has constructed this piping in accordance with the applicable Sections  
of the ASME Piping Codes and Province of Alberta Safety Codes Act and Regulations.

Date: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
Print Owner's Inspector's Name Owner's Inspector's Signature

Name: \_\_\_\_\_ Sign.: \_\_\_\_\_

\_\_\_\_\_  
ABSA Safety Codes Officer  
(BOILER EXTERNAL PIPING ONLY)



Partial Data Reports, properly identified and certified by ABSA-authorized contractors, as listed below are attached to and form part of this Data Report ☐

No.	Line No.	Spool No.	Drg. No. (with Rev. No.)	Contractor (Name)	AQP No.	Expiry date

**Remarks:** Provide additional comments including noting any code work that was not performed by the ABSA- authorized contractor(s) supplying this document as a Partial Data Report but which must be completed by another ABSA-authorized contractor who assumes overall responsibility for conformance with the Safety Codes Act & Regulations and applicable ASME Codes, and who assures that all required code work is completed prior to putting the piping system into service.

### Endorse certificate 'A' or 'B'

#### A. CERTIFICATE OF COMPLIANCE

Signed by the subcontractor when supplying this certificate as a  
Partial Data Report

We certify that the statements in this Data Report are correct and that materials, construction and workmanship of the piping fabrication conform to the registered quality system and the applicable Piping code(s).

Date: N/A N/A  
Subcontractor  
N/A N/A  
Print Authorized Representative's Name Signature

**This certificate is not valid unless it forms part of a  
Final Data Report signed by Primary Contractor**

#### B. CERTIFICATE OF COMPLIANCE

Signed by the primary contractor when supplying this certificate as a  
Final Data Report

We certify that the statements in this Data Report are correct and that piping job no. 050134 described in this Data Report was constructed in accordance with the Province of Alberta Safety Codes Act and Regulations, and applicable ASME Piping Code(s).

Date: MAY 18/05 Enerflex Systems Ltd  
Primary Contractor

DAVE MABERLEY L. Whelby  
Print Authorized Representative's Name Signature

### CERTIFICATE OF INSPECTION

I, the undersigned, employed by \_\_\_\_\_ have inspected the piping job no. \_\_\_\_\_ described in this Construction Data Report and state that, to the best of my knowledge and belief, the Contractor has constructed this piping in accordance with the applicable Sections of the ASME Piping Codes and Province of Alberta Safety Codes Act and Regulations.

Date: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_  
Print Owner's Inspector's Name Owner's Inspector's Signature

Name: \_\_\_\_\_ Sign.: \_\_\_\_\_

ABSA Safety Codes Officer  
(BOILER EXTERNAL PIPING ONLY)

# Pressure Relief Valve Final Data Sheet

Date Prepared: 2005-06-16 10:27

## General Job Data

Customer	Requisition #	Job #	Job Description	
Petro Bank		050134	Petro Bank	
Prepared By	Checked By	Approved By	Job Status	Revision #
System Admin			Sizing/Selecting	0

## PSV Identification

Tag #	Tag Description	Tag Status	P / ID	Discharge To	Revision #
PSV001	Suction Valve	Valve Selected	PSV-001	HP Header	0
Plant #	Drawing #	Index #	Issue For	Service	Inlet Line #
LSD-13-29-20-21-W4M	PF-050134-50		PetroBank	Natural Gas	V1
				Outlet Line #	
				1"-1PSV1-150AR	

## Sizing Basis

(Sizing Rev. # 0)

ASME Code	Cause of Over Pressure	Fluid State	Rupture Disk Coeff.	NACE
ASME Sec. VIII	-	Gas (Volume)	No Rupture Disk, 1	No

## Process Parameters

Design Pressure	- PSIG	Design Temp.	- °F	Constant Back P.	5 PSIG
Operating Pressure	50 PSIG	Operating Temp.	60 °F	Variable Back P.	0 PSIG
Set Pressure	300 PSIG	Relief Temp.	300 °F	Over Pressure	63 PSIG
Operating to Set %	16.667 %	Percent Over P.	21 %	Cold Diff. Test P.	295 PSIG

## Compressible State

Fluid Type	Natural Gas (Typ)	Molecular Weight	19 Mol Wt	Gas Flow Const.	344
Req. Flow Cap.	600 std ft³/min	Specific Gravity	0.65585 sp gr	Compressibility	0.99
Calculated Area	0.10177 in²	Specific Heat Ratio	1.27	Fluid Name	

Resolved Area: 0.10177 in² (Resolved by Maximum)

## Model Selection

(Selection Rev. # 1)

Manufacturer	Farris	API Letter		Inlet Size	1.00 in	Outlet Size	1.00 in
Model Number	27DA33-M20	API Area		In. Rating		Out. Rating	
Valve Design	Conventional	ASME Area	0.125 in²	In. Facing	MNPT	Out. Facing	FNPT
Cap Constrn	Plain	Max. Cap.	736.97 std ft³/min	Test Gag	No	Quantity	1

## Model Materials

Body	316 ss	Bonnet	Carbon Steel	Nozzle	316 ss
Disc	316 ss	Guide	316 ss	Spring	Chrome Alloy

## Sizing Scenarios

Scenario	Resolve By	Fluid State	Cause of Over P.	Relief Load Capacity	Set P.	Relief T.	Required Area
Case A	Max	Gas	Unknown	600 std ft³/min	300 PSIG	300 °F	0.10177 in²

# Scenario: Case A / Gas Volume

Required Flow Capacity	$W_{vapor}$	600 std ft <sup>3</sup> /min
Relief Temperature	$T_{relief}$	300 °F
Compressibility	$Z$	0.99
Gas Flow Constant	$C$	344
Discharge Coeff. (0.9 x $K_d$ )	$K^{Gas}$	0.8577
Rupture Disk Coefficient	$K_{CCF}$	1
Relief Pressure	$P_{relief}$	377.7 PSIA
Molecular Weight	$M_{vapor}$	19 Mol Wt
Vapor Flow Factor	$K_b$	1
Vapor Flow Factor	$K_v$	-

$$A_{conven} = \frac{V_{gas} \sqrt{G_{gas} T_{relief} Z}}{1.175 C K^{Gas} K_{CCF} P_{relief} K_b}$$

$$A_{bellow} = \frac{V_{gas} \sqrt{G_{gas} T_{relief} Z}}{1.175 C K^{Gas} K_{CCF} P_{relief} K_v}$$

Fluid Type		Natural Gas (Typ)
Specific Gravity	$G_{gas}$	0.65585 sp gr
Ratio of Specific Heats	$k$	1.27
Discharge Coefficient	$K_d$	0.953
ASME Area (Actual)		0.10177 in <sup>2</sup>

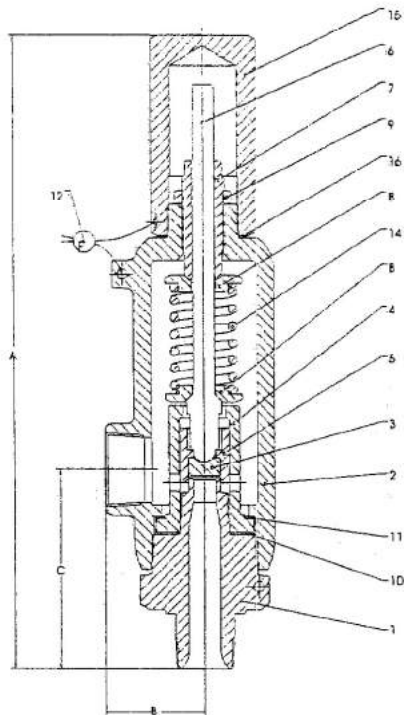
SizeMaster 4.1.4.8

End of PSV001 Final Data Sheet



# Pressure Relief Valve Reference Drawing

Date Prepared: 3/15/2005 4:57:07 PM



## Farris 27DA33-M20

API Letter	API Area	ASME Area
		0.125 in <sup>2</sup>

	Size	Rating	Facing
Inlet:	1.00 in		MNPT
Outlet:	1.00 in		FNPT

### Materials

Body (1)	Bonnet (2)
316 ss	Carbon Steel
Nozzle (1)	Disc (3)
316 ss	316 ss
Guide (4)	Spring (13)
316 ss	316 ss

### Dimensions

Weight	Dimension A	Dimension B
8 lb	11 1/2 in	1 3/4 in
Dimension C		
3 3/4 in		

# Pressure Relief Valve Specification Sheet

Date Prepared: 3/15/2005 5:11:50 PM

## General Job Data

Customer	Requisition #	Job #	Job Description	
Enerflex Systems Ltd.		308721SQ		
Prepared By	Checked By	Approved By	Job Status	Revision #
Greg St. Laurent			Sizing/Selecting	0

## PSV Identification

Tag #	Tag Description	Tag Status	P / ID	Discharge To	Revision #
Discharge PSV		Valve Selected			0
Plant #	Drawing #	Index #	Issue For	Service	Inlet Line #

## Sizing Basis

ASME Code	Cause of Over Pressure	Fluid State	Rupture Disk Coeff.	NACE
ASME Sec. VIII	-	Gas (Volume)	No Rupture Disk, 1	No

## Process Parameters

MAWP	- PSIG	Design Temp.	- °F	Constant Back P.	0 PSIG
Operating Pressure	- PSIG	Operating Temp.	300 °F	Variable Back P.	0 PSIG
Set Pressure	350 PSIG	Relief Temp.	300 °F	Over Pressure	35 PSIG
Atm Pressure	14.697 PSIA	Relief Pressure	399.7 PSIA		

## Compressible State

Fluid Type	User Defined	Molecular Weight	18.831 Mol Wt	Gas Flow Const.	345
Req. Flow Cap.	21.6 M ft³/day	Specific Gravity	0.65 sp gr	Compressibility	0.98
Calculated Area	2.3744 in²	Specific Heat Ratio	1.28	Fluid Name	Natural Gas

Resolved Area: 2.3744 in² (Resolved by Maximum)

## Model Selection

Manufacturer	Farris	API Letter	L	Inlet Size	4.0 in	Outlet Size	6.0 in
Model Number	26LA12-120	API Area	2.853 in²	In. Rating	300 #	Out. Rating	150 #
Valve Design	Conventional	ASME Area	3.170 in²	In. Facing	RF	Out. Facing	RF
Cap Constrn	Screwed Cap	Max. Cap.	28.838 M ft³/day	Test Gag	No	Quantity	1
React. Force	1244.5 lbs	Noise	116.56 dBa				

## Model Materials

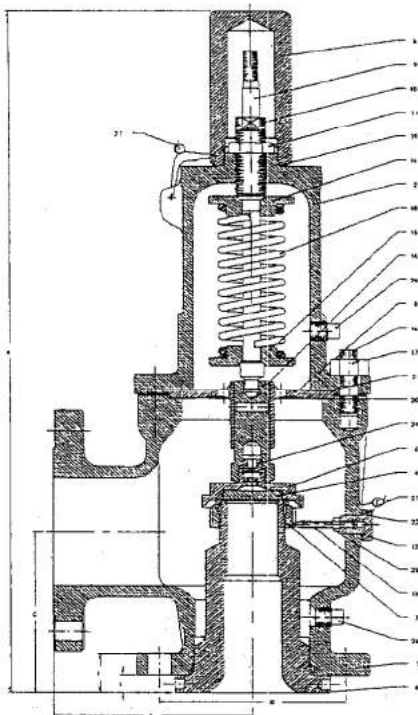
Body	Carbon Steel	Bonnet	Carbon Steel	Nozzle	316 ss
Disc	316 ss	Guide	316 ss	Spring	Chrome Alloy
Bellows	N/A				

# Pressure Relief Valve Reference Drawing

Date Prepared: 3/15/2005 5:11:51 PM

## PSV Identification

Customer	Requisition #	Job #	Job Description	
Enerflex Systems Ltd.		308721SQ		
Tag #	Tag Description		Tag Status	P / ID
Discharge PSV			Valve Selected	
ASME Code	Fluid State	Resolved Area	Rupture Disk Coeff.	NACE
ASME Sec. VIII	Gas (Volume)	2.3744 in <sup>2</sup>	No Rupture Disk, 1	No
Operating Pressure	Set Pressure	Constant Back P.	Variable Back P.	Cold Diff. Test P.
0 PSIG	350 PSIG	0 PSIG	0 PSIG	350 PSIG
Operating Temp.	Relief Temp.	Operating to Set %	Over Pressure	Percent Over P.
300 °F	300 °F	- %	35 PSIG	10 %



## Farris 26LA12-120

API Letter	API Area	ASME Area
L	2.853 in <sup>2</sup>	3.170 in <sup>2</sup>

	Size	Rating	Facing
Inlet:	4.0 in	300 #	RF
Outlet:	6.0 in	150 #	RF

Valve Design	Cap Constrn	Test Gag
Conventional	Screwed Cap	No
Max. Rel. Cap.	React. Force	Noise
28.838 M ft <sup>3</sup> /day	1244.5 lbs	116.56 dBa

## Materials

Body (1)	Bonnet (2)
Carbon Steel	Carbon Steel
Nozzle (5)	Disc (4)
316 ss	316 ss
Guide (8)	Spring (18)
316 ss	Chrome Alloy
Bellows (15)	
N/A	

## Dimensions

Weight	Dimension A	Dimension B
230 lb	37 1/2 in	7 1/8 in
Dimension C	Dimension E	Dimension F
7 1/16 in	11 1/16 in	1 15/16 in

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End of 26LA12-120 Valve Reference Drawing