FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required he Provisions of the ASME Code Rules, S on VIII, Divis'on 1

(A) 2972608

1 Manufactured and certified by NATCO CANADA LTD. 9423 Shepard Rd. SE Calgary, Alberta T2C 1E2
(Name and address of Manufacturer)

2 Manufactured for CHEVRON CANADA RESOURCES 500 - 5th Ave SW Calgary, Alberta
(Name and address of Purchaser)

3 Location of installation LSD 11-22-49-12 W5M
(Name and address)

4 Type HORIZONTAL (Horiz., vert., or sphere) | REBOILER/SURGE TANK (Tank, separator, jkt. vessel, heat exch., etc.) | LM-2895 (Mfg's serial No.) | M3154.2 (CRN) | D-6083-52 (Drawing No.) | N/A (Nat'l Bd. No.) | 1994 (Year built)

5 ASME Code, Section VIII, Div. 1 1992 A'92 (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) 6 (b) Overall length (ft & in.) 35' 0"

Course(s) No	Diameter, in.	Length (ft & in.)	Material Spec./Grade or Type	Thickness Nom.	Corr	Long Joint (Cat. A) Type	Full, Spot, None	Eff.	Circum. Joint (Cat. A, B & C) Type	Full, Spot, None	Eff.	Heat Treatment Temp.	Time
1-3	48"	3x10'0"	SA 516-70N	.375	.125	1	FULL	.100	1	FULL	.100	1150	1 hr
4&5	48x24"	4' 7"	SA 516-70N	.375	.125	1	FULL	.100	1	FULL	.100	1150	1 hr
6	24"	0' 10"	SA 516-70N	.375	.125	1	FULL	.100	1	FULL	.100	1150	1 hr

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

	Location (Top, Bottom, Ends)	Thickness Min.	Corr.	Radius Crown	Knuckle	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure Convex	Concave	Category A Type	Full, Spot, None	Eff.
(a)	END	.481	.125			2:1					Yes	N/A	None	100
(b)														

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

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

If bar, give dimensions N/A If bolted, describe or sketch

9 MAWP 127 (internal) psi at max. temp. 400 (internal) °F Min. design metal temp. -20 °F at 127 psi
(external) (external)

10 Impact test No. Exempt per UG-20f (Indicate yes or no and the component(s) impact tested)

11 Hydro., pneu., or comb. test press. 191 psi Proof test N/A

Items 12 and 13 to be completed for tube sections.

12 Tubesheet: SA 516-70N (Stationary (Mat'l Spec. No.)) | 23.125" (Dia., in. (subject to press.)) | 2.375 (Nom. thk., in.) | .125" (Corr. Allow., in.) | Bolted (Attachment (welded or bolted))

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

13 Tubes: SA-179 (Mat'l Spec. No., Grade or Type) | .750" (O.D., in.) | 14 BWG (Nom. thk., in. or gauge) | 78 (Number) | U (Type (Straight or U))

Items 14 - 16 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14 Shell (a) No. of course(s) 1 (b) Overall length (ft & in.): 1' 1"

Course(s) No	Diameter, in.	Length (ft & in.)	Material Spec./Grade or Type	Thickness Nom.	Corr	Long Joint (Cat. A) Type	Full, Spot, None	Eff.	Circum. Joint (Cat. A, B & C) Type	Full, Spot, None	Eff.	Heat Treatment Temp.	Time
1	24"	1' 1"	SA 106B	.375	.125	SMLS	None	100	1	FULL	100	1150	1 hr

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

	Location (Top, Bottom, Ends)	Thickness Min.	Corr.	Radius Crown	Knuckle	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure Convex	Concave	Category A Type	Full, Spot, None	Eff.
(a)	END	.312	.125			2:1					Yes	N/A	None	100
(b)														

16 Removable bolts used (describe other fastening) 20 - 1 1/4 x 9" long studs c/w nuts SA 193-B7N / 194-2HN (Mat'l Spec. No., Grade, Size, No.)

(A) 2912608

16. MAWP 155 (internal) ____ (external) psi at max. temp 545 (internal) ____ (external) °F Min. design metal temp -20 °F at 545 psi

17. Impact test No. Exempt per UG-20F and UCS-66
(Indicate yes or no and the component(s) impact tested)

18. Hydro., ~~pneu.~~ or comb. test press 233 psi Proof test N/A

19. Nozzles, inspection, and safety valve openings

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material: Nozzle	Material: Flange	Nozzle Thickness: Nom.	Nozzle Thickness: Corr.	Reinforcement Material	How Attached: Nozzle	How Attached: Flange	Location (Insp. Open.)
T.S. Inlet	1	4"	RFWN	SA106B	SA105N	.337	.125	Integral	Welded	Welded	T.S. She
T.S. Outlet	1	4"	RFWN	SA106B	SA105N	.337	.125	Integral	Welded	Welded	T.S. She
Spares	2	1"	CPLG	SA105N	--	6000#	.125	Integral	Welded	--	Nozzle
Spares	2	3/4"	CPLG	SA105N	--	6000#	.125	Integral	Welded	--	Nozzle

20. Supports: Skirt No (Yes or No) Lugs Nil (No.) Legs Nil (No.) Others Saddles - 2 (Describe) Attached S.Side Shell-Vel (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)
Tubeside channel and "U" tube bundle Serial No. 94-2716, Altex Heat Exchanger Ltd., U-26,435. CRN M3578.2

22. Remarks: Tube Surface Area 551 sq.ft. (51.18 m^2)
Volume: 337 cu/ft (10.67 m^3)
Vessel Type: Amine Reboiler/Surge Tank
Tag No: E-4400

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. 11313 Expires September 9, 19 95

Date June 16/94 Name NATCO CANADA LTD. (Manufacturer) Signed B. Hunt (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 Alberta and employed by Alberta Labour - Boiler & Pressure Vessel Safety of Alberta have inspected the pressure vessel described in this Manufacturer's Data Report on June 16, 19 94, 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 June 16, 94 Signed ____ (Authorized Inspector) Commissions Alberta #11 (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 ____, 19 ____

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

FORM U-4 MANUFACTURERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Rules, Section VIII Division 1

(A) 2972608

1. Manufactured and Certified By Natco Canada Ltd. 9423 Shepard Rd. S.E. Calgary AB. T2C-1P2
(Name and address of manufacturer)

2. Manufactured For CHEVRON CANADA RESOURCES
(Name and address of purchaser)

3. Location of Installation LSD: 11-22-49-12 W5M
(Name and address)

4. Type HORIZONTAL (Horiz, Vert, or Sphere) TANK (Tank, Separator, heat exch., etc.) LM-2895 (Mfg's. serial No.)

M-3154.2 (CRN) D-6083-52 REV0 (Dwg.#) --- (Nat'l Bd no.) 1994 (Year built)

Data Report Item Number Purpose	No.	Size	Type	Mat'l	Thick.	Remarks Attached Reinf. Mat	How	Where
T/B FLANGE	BF	24	RFWN	SA 105N	---	---	WELD	HEAD
AMINE IN	N3	6	RFLWN	SA 105N	.875	---	WELD	SHELL
STEAM IN	N4	6	RFLWN	SA350LF2	.875	---	WELD	SHELL
STEAM OUT	N5	8	RFLWN	SA350LF2	.875	---	WELD	SHELL
AMINE OUT	N6	4	RFLWN	SA 105N	.750	---	WELD	SHELL
LG	N7	2	RFLWN	SA 105N	.625	---	WELD	SHELL
LG	N8	2	RFLWN	SA 105N	.625	---	WELD	SHELL
LT	N9	2	RFLWN	SA 105N	.625	---	WELD	SHELL
LT	N10	2	RFLWN	SA 105N	.625	---	WELD	SHELL
TI	N11	2	RFLWN	SA 105N	.625	---	WELD	SHELL
TT	N12	2	RFLWN	SA 105N	.625	---	WELD	SHELL
PI	N13	2	RFLWN	SA 105N	.625	---	WELD	SHELL
DRAIN	N14	3	RFLWN	SA 105N	.625	---	WELD	SHELL
INSPECTION	N15	6	STUD	SA350LF2	---	---	WELD	SHELL
INSPECTION	N16	6	STUD	SA350LF2	---	---	WELD	HEAD
LG	N17	2	RFLWN	SA 105N	.625	---	WELD	SHELL
LG	N18	2	RFLWN	SA 105N	.625	---	WELD	SHELL

Certificate of Authorization: Type "U" No. 11,313 Expires Sept. 9, 1995.

Date June 16/94 Name Natco Canada Ltd. (Manufacturer) Signed (Representative)

Date June 16, 94 Name (Authorized Inspector) Commission ALBERTA #1 (Natl. Board (incl. endorsements), State, Province and No.)

Shop Order: 6083-52

94-2716

Unit E-4400

ORM U-2 MANUFACTURER'S PARTIAL .TA REPORT

A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer (A) 2972608

As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Altex Heat Exchanger Ltd., 6831-42 Street, Edmonton, Alberta, T6B 2X (Name and address of manufacturer)

2. Manufactured for Natco Canada, 9423 Shepard Road S.E., CALGARY, Alberta, T2C 1E2 (Name and address of purchaser)

3. Location of installation Chevron Canada Resources, West Pembina Gas Plant 11-22-49-12 W5M (Name and address)

4. Type Horizontal Heat Exchanger (Horiz. or vert., tank) | 94-2716 (Mfr.'s serial No. or Parts) | M3578.2 (CRN) | 94-2716-Drwg 1-REV 3 (Drawing No.) | (Nat'l. Bd. No.) | 1994 (Year Built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL C
The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1992 (Year)

1993 (Addenda (Date)) | (Code Case No.) | (Special service per UG-120(c))

6. (a) Drawing prepared by Altex Heat Exchanger Ltd. (b) Description of part inspected Channel and "U" Tube Char

7. Postweld heat treatment: Temp. 1150 °F Time 60 minutes (Channel and "U" Bends on Tube Bundle)

Items 8-13 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers

8. Shell: (Matl. (Spec. No., Grade) | (Nom. Thk. (in.) | (Corr. Allow. (in.) | (Diam. I.D. (ft & in.) | (Length (overall) (ft & in.)

9. Seams: (Long. (Wld., Dbl., Sngl., Lap, Butt) | (R.T. (Spot or Full) | (Eff. (%) | (H.T. Temp. (°F) | (Time) | (Girth (Wld., Dbl., Sngl., Lap, Butt) | (R. T. (Spot, Partial, or Full) | (No. of Courses)

10. Heads: (a) Matl. (Spec. No., Grade) (b) Matl. (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)										
(b)										

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

11. Type of Jacket Proof Test

12. Jacket Closure (Describe as open & weld, bar, etc.) If bar, give dimensions

If bolted, describe or sketch.

13. MAWP psi at max. temp. °F. Min. temp. (when less than -20° F) °

Hydro., pneu., or comb. test press. psi.

Items 14 and 15 to be completed for tube sections

14. Tubesheets: SA516-70N (Stationary Matl (Spec. No., Gr.)) | 23.125" (Diam. (in.) (Subject to pressure)) | 2.375" (Nom. Thk. (in.)) | .125 (Corr. Allow. (in.)) | Intermediate (Attach. (Wld., Bolted))

(Floating Matl. (Spec. No., Gr.)) | (Diam. (in.)) | (Nom. Thk. (in.)) | (Corr. Allow. (in.)) | (Attach.)

15. Tubes: SA179 (Matl. (Spec. No., Grade)) | .750" (O.D. (in.)) | 14 BWG (Nom. Thk. (in. or gauge)) | 78 (No.) | "U" Type (Type (straight or "U"))

Items 16-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

16. Shell: SA106B (Matl. (Spec. No., Gr.)) | .375" (Nom. Thk. (in.)) | .125" (Corr. Allow. (in.)) | 23.250" (Diam. I.D. (ft & in.)) | 1'-1" (Length (overall) (ft & in.))

17. Seams: (Long. (Wld., Dbl., Sngl., Lap, Butt)) | (R.T. (Spot or Full)) | (Eff. (%)) | 1150 (H.T. Temp. (°F)) | 60 minutes Sngl. Butt (Type) | (Girth (Wld., Dbl., Sngl., Lap, Butt)) | Full (R.T. (Spot, Partial, or Full)) | 1 (No. of Courses)

18. Heads: (a) Matl. SA516-70N (Spec. No., Grade) (b) Matl. (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)	End	.3125	.125"			2:1 S/E			23.125"	Concave
(b)										

If removable, bolts used (describe other fastenings) 20-1¼" x 9" Long SA193-B7M Studs c/w SA194-2HM Nuts (Matl., Spec. No., Grade, Size, No.)

(A)2972608

Form U-2 (Back)

19. MAWP 155 psi at max. temp. 545 F. Min. temp. (when less than -20 F) -20

Hydro., pneu., or comb. test press. 233 psi.

Items below to be completed for all vessels where applicable

20. Nozzles, Inspection and Safety Valve Openings:

	Purpose (Inlet, Outlet, Drain, etc.)	No	Diam or Size	Type	Matl	Nom Thk	Reinforcement Matl	How Attached	Location
	Tubeside				SA106B/				
N1	Inlet	1	4"	RFWN	SA105N	Sch. XH		Welded	Channel
	Tubeside				SA106B/				
N2	Outlet	1	4"	RFWN	SA105N	Sch. XH		Welded	Channel
									Nozzle
C1	Spares	2	1"	Cplg's	SA105N	6000#		Welded	Neck
									Nozzle
C2	Spares	2	3/4"	Cplg's	SA105N	6000#		Welded	Neck

21. Supports: Skirt ____ (Yes or no) Lugs ____ (No.) Legs ____ (No.) Other ____ (Describe) Attached ____ (Where and how)

22. Remarks: This form represents a replacement Channel and "U" Tube Bundle. Unit exempt from Impact testing as per UG20(f) and USC-66. Effective tube surface 551 sq. ft. Channel and "U" Tube Bundles built to Drwg. 94-2716-Drwg-1-REV 5.

CERTIFICATE OF SHOP COMPLIANCE

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

"U" Certificate of Authorization No. 26,435 expires July 13, 19 95

Date May 9/95 Co. name Altex Heat Exchanger Ltd. (Manufacturer) Signed [signature] (Representative)

CERTIFICATE OF SHOP INSPECTION

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 Alberta and employed by Dept. of Labour, Boiler and Pressure Vessel Safety of Alberta have inspected the pressure vessel described in this Manufacturer's Partial Data Report on 9 May, 19 95, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this part in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the part described in this Manufacturers' Partial 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 9 May 95 Signed [signature] (Authorized Inspector) Commissions Alberta (Nat'l Board (incl. endorsements), State, Prov. and No.)