

ENTERED  
03/03/09

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

A2866554

SCANNED

1. Manufactured and certified by THERMO DESIGN ENGINEERING LTD., 1624 - 70 Ave., Edmonton, AB  
(Name and address of manufacturer)

2. Manufactured for DISCOVERY WEST CORP.  
(Name and address of purchaser)

3. Location of installation 8-24-38-19 W4M  
(Name and address)

4. Type HORIZONTAL #954 M-0334.2 9053-0290-201/Rev.0 1993  
(Material or shell tank) (Mfg's serial No.) (ICRN) (Drawing No.) (Mat'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 1992  
Year

6. Shell: SA-516-70N 1.25" 0.0625" 39.50" ID 10'-0" S/S  
(Mat'l. Spec. No., Grade) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft. & in.)) (Length overall) (ft. & in.)

7. Seams: DBL "V" EACH FULL 100% N/A N/A DBL "V" EACH SPOT 1  
(Long. (Welded, Dbl., Spgt., Lap, Butt)) (R.T. (Spot, Partial, or Full)) (EN. (%)) (H.T. Temp. (°F)) (Tens (ksi)) (Girth (Welded, Dbl., Spgt., Lap, Butt)) (R.T. (Spot, Partial, or Full)) (No. of Courses)

8. Heads: (a) Mat'l. SA-516-70N (b) Mat'l. 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 (Concave or Convex)
(a) END	1.225"	0.0625"			2:1				CONCAVE
(b) END	1.228"	0.0625"			2:1				CONCAVE

If removable, bolts used (describe other fastenings) N/A  
(Mat'l., Spec. No., Cr., Size, No.)

9. MAWP 800 psi at max. temp. 150 °F  
Min. design metal temp. -20 °F at 800 psi. Hydro., pres., or comb. test pressure 1200 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Mat'l.	Nom. Thk.	Reinforcement Mat'l.	How Attached	Location
N1	1	4"	WN FLG.	SA-333-6	600#	SCH160 SA-516-70N	WELDED	SHELL
N2	1	4"	WN FLG.	SA-333-6	600#	SCH160 SA-516-70N	WELDED	SHELL
N3	2	6"	WN FLG.	SA-106-B	600#	SCH.XHY SA-516-70N	WELDED	SHELL
N4	1	1 1/2"	WN FLG.	SA-333-6	600#	SCH160 N/A	WELDED	SHELL

11. Supports: Skirt \_\_\_\_\_ Lugs \_\_\_\_\_ Legs \_\_\_\_\_ Other SADDLES Attached 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:  
(Name of part, item number, Mfg's name and identifying number)

42" OD x 10'-0" S/S INLET SEPARATOR "V-100"  
CAPACITY: 111 cu. ft. / BUILT ACCORDING TO DWG. 9053-0290-201/Rev. 1  
IMPACT TEST EXEMPT PER UG-20(F) SEE ATTACHED "U-4" FORM

**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. 22,145 expires Sep. 15, 1996.  
Date 18-10-93 Co. name THERMO DESIGN ENGINEERING LTD. Signed Chillhardt  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**  
Vessel constructed by THERMO DESIGN ENGINEERING LTD., 1624 - 70 Ave., Edmonton, AB  
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 GOVERNMENT OF ALBERTA  
have inspected the component described in this Manufacturer's Data Report on Oct 21, 1993, 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 loss of any kind arising from or connected with this inspection.  
Date 93-10-21 Signed L. H. Hays Commissions Alberta 39R  
(Authorized Inspector) (National Board and/or State, Prov. and No.)

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

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(Name and address of manufacturer)

2. Manufactured for DISCOVERY WEST CORP.  
(Name and address of purchaser)

3. Location of installation 8-24-38-19 W4M  
(Name and address)

4. Type HORIZONTAL #954 M-0334.2 9053-0290-201/Rev. 0 1993  
(Horiz., vert., tank, etc.) (Mfg's. serial No.) (CRN) (Desig) (Mat'l. Id. No.) (Year built)

Date Report Item Number	Remarks								
10	C1	1	1 1/2"	CPLG.	SA-105	3000#	N/A	WELDED	BOOTS HEAD
	C2	1	1"	CPLG.	SA-105	3000#	N/A	WELDED	SHELL
	C3	4	1 1/2"	CPLG.	SA-105	3000#	N/A	WELDED	SHELL/BOOTS SHELL
	C4	4	3/4"	CPLG.	SA-105	3000#	N/A	WELDED	SHELL/BOOTS SHELL
	C5	2	1"	CPLG.	SA-105	3000#	N/A	WELDED	SHELL
	C6	1	1/2"	CPLG.	SA-105	3000#	N/A	WELDED	SHELL
	C7	1	3/4"	CPLG.	SA-105	3000#	N/A	WELDED	SHELL
	C8	2	1/2"	DBL CPLG.	SA-105	3000#	N/A	WELDED	BOOTS SHELL
	C9	1	1"	CPLG.	SA-105	3000#	N/A	WELDED	BOOTS SHELL
	C10	1	1/2"	CPLG.	SA-105	3000#	N/A	WELDED	SHELL
	BOOT SHELL 18" SA-516-70N 0.500" SA-516-70N WELDED MAIN SHELL								
	HEAD 18" ELIPTIC SA-516-70N 0.483" MIN.								

Date 18.10.93 Co. name THERMO DESIGN ENGINEERING Signed Bill Harris  
(Date) (Manufacturer) (Representative)

Date 9.3.10.21 Signed L Hayes Commissions Alberta 39R  
(Date) (Authorized Inspector) (Name, Board (local endorsement), State, Prov., and No.)

This form (E00118) is available from the Order Dept., ASME, 345 E. 47 St., New York, N.Y. 10017