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**APPENDIX D**

**Hydrostatic Pressure Testing Report**

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### URS-MUSCOY PUNCHLIST

ITEM	SYSTEMS	COMPLETION DATE	URS-MUSCOY SIGN-OFF
✓ Install GAC Sample Ports on each Vessel	ALL	1/14/05	Mike Fogel
Calibrate & Correct Flowmeter Readings	ALL	1/19/05	
✓ Pressure Transmitter Installation		1/20/05	Mike Fogel
✓ Pressure Test Systems:	1 - 3	1/14/05	Mike Fogel
	4 - 6	1/14/05	Mike Fogel
	8 - 10	1/19/05	Mike Fogel
	11 - 13	1/19/05	Mike Fogel
✓ External Pressure Wash Systems:	1 - 3	1/20/05	Mike Fogel
	4 - 6	1/20/05	Mike Fogel
	8 - 10	1/26/05	Mike Fogel
	11 - 13	1/26/05	Mike Fogel
External Touch-up Systems:	1 - 3	1/20 - Primer	Mike Fogel
	4 - 6	1/20 - Primer	Mike Fogel
	8 - 10	1/31/05	Mike Fogel
	11 - 13	2/01/05	Mike Fogel
✗ Piping & Vessel Labeling	ordered		
Install (0 - 60) Pressure Guages	ordered		
System Disinfection		2/4 - complete 2/8 - TESTING	
✗ System Start-up & Training			
✗ Final Inspection & Acceptance			
✗ Written Certification of System Installation		sent 12/20/04	
✗ Operation & Maintenance Manuals		sent 12/20/04	
✗ As-Built Drawings		sent 12/20/04	Mike Fogel
✓ Pressure Test Procedures		sent 12/20/04	Mike Fogel
✓ Sample Sinks		sent 12/17/04	Mike Fogel

## Leak and Pressure Test Procedure Sequence For multi HP1230 Systems

1. Confirm the main headers are sealed. Close valves or blind flange at battery limits.
2. Close all system tie- in valves. (influent , effluent and backwash supplies) *This will be important when transferring water from vessels which have been tested.*
3. Close all valves on the manifold and three connecting lines of the two vessel system to be tested. (influent , effluent and backwash supply)
4. Pressure will be applied to one vessel of one system at a time as follows:  
Open the five valves on the manifold next to the vessel to be tested. (to the right of the manifold center line to test the right vessel) This will test past the center of the manifold and to the influent, effluent and backwash supply valves.
5. Open the overhead two inch vent ball valve to relieve air pressure during fill.
6. Open backwash supply to fill and pressurize the vessel.
7. Close backwash supply and check for leaks. Maintain 75 psi for 15 minutes with all valves closed.
8. Eliminate any leaks and repeat the pressure check.
9. The next vessel test will require transferring water to the second vessel.
10. Open the five valves on the manifold next to the vessel to be tested. (to the left of the manifold center line, when testing the left vessel)
11. Close all valves next to vessel which has been completed, except for the manifold effluent valve. (bottom of manifold)
12. Open the two inch vent ball valve on the vessel to be filled and tested. Connect air to the completed vessel and pressurize to force water to the second vessel.
13. Close the effluent of the empty vessel and top off second vessel with additional backwash supply. Open the two inch vent and relieve the air pressure.
14. Close the vent and pressure test the second vessel. (left in this case)
15. After the first system successfully tested connect air and open the effluent tie-in valve to let water out, and open the effluent tie-in valve to the next system to be tested.
16. Open the five valves on the manifold next to the vessel to be tested. (first vessel in the next system )
17. Apply air pressure to transfer water from the last vessel tested. Close the effluent tie-in valve (on first set complete). This will fill the main header and part of the first of the second pair to be tested. Close the tie in effluent valves and open the backwash supply valve and top off the third vessel. Close the vent; leak and pressure check.
18. Transfer water to the opposite vessel and test by following 10 thru 14.
19. Transfer water to the next *set* of vessels and test by following 15 thru 18.
20. Continue at 19 until all systems are complete.
21. Open the effluent tie-in valve of the last system and transfer water to the effluent header and pressurize to 75 psi for thirty minutes.
22. Apply air at the system on the opposite end of the header from the last vessel one tested.
23. Open the influent tie-in valve and force water into the influent header. (Using air pressure on the effluent main header.
24. Top off with additional backwash water. Pressure test influent header 75 psi for 15 minutes.
25. Remove air supply and vent all pressure lines
26. *Confirm all pressure from all vessels and lines is vented.*
27. Record time date and identify pressure used and items tested.

## Hydrostatic testing:

Ref: 5.05 Tests and Inspection

This section states that the system or components are at all times subject to inspection and approval by URS. And further states that the Vessel Contractor is responsible for materials etc. for "appropriate tests and/or inspections."

It is the US Filter's position that "design pressure" testing of the completed and INSTALLED System assembly is not appropriate when many components have varying pressure limits and system disassembly is required to complete a 100% "design pressure" test. The extreme of this requirement is testing at the design pressure and TEMPERATURE - Clearly not "appropriate". An appropriate test for a completely installed system is simply at a pressure within the limits of lowest rated component. In this system that component is a pressure relief valve set at 95 psi.

This was the basis of the hydrostatic pressure testing for possible installation and assembly leaks. The testing pressure as submitted can be increased to 85 psi and extended to two hours if so determined to be necessary and satisfactory by URS. If required, USFilter will supply a pressure pump if system pressure is not available to 85 psi.

It is customary to test components to/or exceeding their rated design pressures as a shop test. The ASME carbon vessels have been shop tested to ASME spec. The valves, gauges, burst disk and other components have been tested per approved manufacturing procedures. Additionally, it is our view that the appropriate testing of specific sub-assemblies at differing pressures and requiring further assembly is for a shop environment.

After review of the specification, it is clear that the manufacturer is to be responsible for the installation and as such should have latitude in the final testing procedures. US Filter will require a change order for any testing requiring disassembly and re-assembly of the completely installed and certified assembled system.

Larry Ray  
Engineer  
USFilter, Westates

**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 MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)

2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)

3. Location of installation UNKNOWN  
(Name and address)

4. Type VERTICAL 160051801-1 --- 160051801 Rev. 2 121 2003  
(Horiz. or vert. tank) (Mfg'r's. serial No.) (CRN) (Drawing No.) (Natl. 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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))

6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)

8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

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

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: TANKS TESTED IN THE VERTICAL POSITION  
(Name of part, item number. Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f)

SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05.  
 Date 8/12/03 Co. name MODERN CUSTOM FABRICATION, INC. Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 8-27-03 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 8-12-03 Signed [Signature] Commissions ND10629A/CA1767  
(Authorized Inspector) (Natl. 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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)

2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)

3. Location of installation UNKNOWN  
(Name and address)

4. Type VERTICAL 160051801-2 --- 160051801 Rev. 2 122 2003  
(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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))

6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in)) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)

8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M102300-A-C (A), Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number. Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position. SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05.  
 Date 8/12/03 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State of Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 7-27-03 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 8-12-03 Signed [Signature] Commissions NB 10627A/CA 1767  
(Authorized Inspector) (Natl. Board (incl. endorsements) State, Prov. and No.)

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

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

- 1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVE. FRESNO, CA 93721  
(Name and address of Manufacturer)
  - 2. Manufactured for U.S. FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of Purchaser)
  - 3. Location of installation UNKNOWN  
(Name and address)
  - 4. Type: VERTICAL FILTER TANK 160051801-2  
(Horz., vert. or sphere) (Tank, separator, heat ext., etc.) (Mfg's serial No.)
- 160051801 Rev. 2 122 2003  
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

Data Report Item Number

Remarks

ITEM 10

SEPTA PIPES, 6", CL. 150 FLG., SA106B, SCH 120, NONE, UW16.1(d)

Certificate of Authorization: Type "U" No. 33251 Expires 4/25/05

Date 8/12/03 Name MODERN CUSTOM FABRICATION, INC. Signed [Signature]  
(Manufacturer) (Representative)

Date 8-12-03 Name Bill A. Kuehling Commission NB10629A/CA1767  
(Authorized Inspector) (Nat'l Board include Endorsement, State, Province and No.)

**FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS**  
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(Name and address of manufacturer)

2. **Manufactured for** US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)

3. **Location of installation** UNKNOWN  
(Name and address)

4. **Type** VERTICAL 160051901-1 --- 160051901 Rev. 2 123 2003  
(Horiz. or vert. tank) (Mfgs. 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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))

6. **Shell** SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. **Seams** TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)

8. **Heads (a) Mat'l.** SA516-70 **(b) Mat'l.** SA516-70  
(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)
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(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l Spec. No., Gr., Size, No.)

9. **MAWP** 125 **psi** at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 **psi**. Hydro, pneu., or comb. test pressure 165 **psi**.

10. **Nozzles, inspection, and safety valve openings:**

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
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INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
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MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. **Supports:** Skirt NO (Yes or No) Lugs 2 (No.) Legs 4 (No.) Other --- (Describe) Attached SHELL - WELDED (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: Bottom Head, M102300-A-C (B), Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number. Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f). Tank tested in vertical position. SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05  
 Date 8/12/03 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 7-31-03 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 8-14-03 Signed [Signature] Commissions NB10624A/CA1767  
(Authorized Inspector) (Nat'l. Board (incl. endorsements) State, Prov. and No.)



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(Name and address)

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(Year)

to 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))

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(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l. Spec. No., Gr., Size, No.)

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 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
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INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL.150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M101570-A-C (A), Steel Forming Inc. DBA Commercial Metal Forming, U

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

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position. SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05.

Date 8/14/03 Co. name MODERN CUSTOM FABRICATION, INC Signed \_\_\_\_\_  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB, CT have inspected the

component described in this Manufacturer's Data Report on 8-31-03 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 8-14-03 Signed Buff H. Subung Commissions NB10629A/CA1767  
(Authorized Inspector) (Nat'l. Board (incl. endorsements) State, Prov. and No.)

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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVE. FRESNO, CA 93721  
(Name and address of Manufacturer)
  2. Manufactured for U.S. FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of Purchaser)
  3. Location of installation UNKNOWN  
(Name and address)
  4. Type: VERTICAL FILTER TANK 160051901-2  
(Horz., vert. or sphere) (Tank, separator, heat ext., etc.) (Mfg's serial No.)
- 160051901 Rev. 2 124 2003  
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

Data Report  
Item Number

Remarks

ITEM 10

SEPTA PIPES, 6", CL. 150 FLG., SA106B, SCH 120, NONE, UW16.1(d)

Certificate of Authorization: Type "U" No. 33251 Expires 4/25/05  
 Date 8/14/03 Name MODERN CUSTOM FABRICATION, INC. Signed [Signature]  
(Manufacturer) (Representative)  
 Date 8-14-03 Name Buff A. Kurling Commission NB10624A/CA1767  
(Authorized Inspector) (Nat'l Board include: 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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)
2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)
3. Location of installation UNKNOWN  
(Name and address)
4. Type VERTICAL 160052001-1 --- 160052001 Rev. 2 125 2003  
(Horiz. or vert. tank) (Mfg'r's. serial No.) (CRN) (Drawing No.) (Natl. 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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))
6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)
7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)
8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M102300-A-C (C), Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number, Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position, SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05.  
 Date 8/14/03 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 8-7-03 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 8-14-03 Signed [Signature] Commissions ND10129A/CA1767  
(Authorized Inspector) (Natl. 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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)
2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)
3. Location of installation UNKNOWN  
(Name and address)
4. Type VERTICAL 160052001-2 --- 160052001 Rev. 2 126 2003  
(Horiz. or vert. tank) (Mfg'r'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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))
6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in)) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)
7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)
8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M101570-D, Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number, Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position. SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05.

Date 8/14/03 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 8-7-03 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 8-19-03 Signed [Signature] Commissions NO10429A/CA1767  
(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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)

Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)

3. Location of installation UNKNOWN  
(Name and address)

4. Type VERTICAL 160052101-1 --- 160052101 Rev. 2 135 2003  
(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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))

6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Norm. Thickness (in.) (Corr. Allow. (in)) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)

8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l. Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M106290C, Top Head, M106320C, Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number, Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position. SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05.  
 Date 9/15/03 Co. name MODERN CUSTOM FABRICATION, INC. Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State of California Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on \_\_\_\_\_ 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 9-16-03 Signed [Signature] Commissions NS 7402 ANU/CA 1238  
(Authorized Inspector) (Nat'l. Board (incl. endorsements) State, Prov. and No.)

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

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

- 1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVE. FRESNO, CA 93721  
(Name and address of Manufacturer)
  - 2. Manufactured for U.S. FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of Purchaser)
  - 3. Location of installation UNKNOWN  
(Name and address)
  - 4. Type: VERTICAL FILTER TANK 160052101-1  
(Horz., vert. or sphere) (Tank, separator, heat ext., etc.) (Mfg's serial No.)
- 160052101 Rev. 2 135 2003  
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

Data Report  
Item Number

Remarks

ITEM 10

SEPTA PIPES, 6", CL. 150 FLG., SA106B, SCH 120, NONE, UW16.1(d)

Certificate of Authorization: Type "U" No. 33251 Expires 4/25/05  
Date 9/15/03 Name MODERN CUSTOM FABRICATION, INC. Signed [Signature]  
(Manufacturer) (Representative)  
Date 9-16-03 Name [Signature] Commission NB 7402 ANCI CA1238  
(Authorized Inspector) (Nat'l Board include, 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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)
2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)
3. Location of installation UNKNOWN  
(Name and address)
4. Type VERTICAL 160052101-2 --- 160052101 Rev. 2 136 2003  
(Horiz. or vert. tank) (Mfr's. serial No.) (CRN) (Drawing No.) (Natl. 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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))
6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)
7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)
8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l. Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M106290B, Top Head, M106320B, Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number, Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position. SAFETY VALVE BY OTHERS

**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. 33251 expires 4/25/05  
 Date 9/23/03 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 9-23-03 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 9-23-03 Signed [Signature] Commissions NB7402-AWC/CA12238  
(Authorized Inspector) (Natl. Board (incl. endorsements) State, Prov. and No.)



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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)
2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)
3. Location of installation UNKNOWN  
(Name and address)
4. Type VERTICAL 160052201-2 --- 160052201 Rev. 2 158 2003  
(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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))
6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)
7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)
8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l. Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M106290C, Top Head, M106320C, Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number, Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position, SAFETY VALVE BY OTHERS

**CERTIFICATE OF SHOP/FIELD 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. 33251 expires 4/25/05.  
 Date 1/6/04 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 1-6-03 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 1-6-04 Signed [Signature] Commissions NB 7402AVCA 2386  
(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 or Field Fabricated Vessels Only)  
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)
2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)
3. Location of installation UNKNOWN  
(Name and address)
4. Type VERTICAL 160052201-1 --- 160052201 Rev. 2 157 2003  
(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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))
6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) Nom. Thickness (in.) (Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)
7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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) (RT (Spot, Partial, or Full) (No. of Courses)
8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M106290C, Top Head, M106320C, Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number, Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position, SAFETY VALVE BY OTHERS

**CERTIFICATE OF SHOP/FIELD 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. 33251 expires 4/25/05.  
 Date 1/6/04 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 1-8-04 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 1-8-04 Signed [Signature] Commissions NB74 02 ANU 01238  
(Authorized Inspector) (Nat'l. Board (incl. endorsements) State, Prov. and No.)



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

1. Manufactured and certified by MODERN CUSTOM FABRICATION, INC. 2421 E. CALIFORNIA AVENUE, FRESNO, CA 93721  
(Name and address of manufacturer)
2. Manufactured for US FILTER, 11711 READING ROAD, RED BLUFF, CA 96080  
(Name and address of purchaser)
3. Location of installation UNKNOWN  
(Name and address)
4. Type VERTICAL 160052301-2 --- 160052301 Rev. 2 162 2004  
(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 2002 --- ---  
Addenda (Date) (Code Case No.) (Special Service per UG-120 (d))
6. Shell SA516-70 .625" 0" 12'-0" O. D. 8'-0"  
Mat'l. (Spec. No., Grade) (Nom. Thickness (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft. & in.)) (Length (overall) (ft. & in.))
7. Seams TYPE 1 SPOT 85% NONE --- TYPE 1 SPOT/NONE 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)) (RT (Spot, Partial, or Full)) (No. of Courses)
8. Heads (a) Mat'l. SA516-70 (b) Mat'l. SA516-70  
(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	.46"	0"	---	---	2:1	---	---	---	CONCAVE
(b)	BOTTOM	.55"	0"	---	---	2:1	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) \_\_\_\_\_  
(Mat'l. Spec. No., Gr., Size, No.)

9. MAWP 125 psi at max. temp. 150 °F  
 Min. design metal temp. 32 °F 125 psi. Hydro, pneu., or comb. test pressure 165 psi.

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. Or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
INSPECTION	1	14"X 18"	ELLIPTICAL MANWAY	SA106C	1.00"	NONE	UW16.1(y-1)	TOP
INSPECTION	1	14"X 18"	MANWAY LID	SA516-70	.375"	NONE	BOLTED	TOP
INSPECTION	1	20"	HINGED MANWAY	SA105	CL. 150	NONE	BOLTED	SHELL
INFLUENT	1	8"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
INLET/OUTLET	2	4"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
MISC	1	3"	CL. 150 FLG.	SA53B-ERW	SCH 40	SA516-70	UW16.1(d)	---
SAMPLE/PRV	4	2"	CL. 150 FLG.	SA53B-ERW	SCH 40	NONE	UW16.1(d)	---

11. Supports: Skirt NO Lugs 2 Legs 4 Other --- Attached SHELL - 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: Bottom Head, M106290C, Top Head, M106320C, Steel Forming Inc. DBA Commercial Metal Forming, U  
(Name of part, item number, Manufacturer's name and identifying stamp)

EXEMPT FROM IMPACT TESTING PER UG-20(f), Tank tested in vertical position. SAFETY VALVE BY OTHERS

**CERTIFICATE OF SHOP/FIELD 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. 33251 expires 4/25/05.  
 Date 1/27/04 Co. name MODERN CUSTOM FABRICATION, INC Signed [Signature] [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by MODERN CUSTOM FABRICATION, INC. at Fresno, CA  
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB CT have inspected the component described in this Manufacturer's Data Report on 1-27-04 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 1-27-04 Signed [Signature] Commissions N37402-ANG/CA1238  
(Authorized Inspector) (Nat'l. Board (incl. endorsements) State, Prov. and No.)

