

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

I-5277P

1. Manufactured by ALLOY FAB INC P O BOX 68 SOUTH PLAINFIELD NJ 07080
(Name and address of manufacturer)

2. Manufactured for MERCK & CO INC RAHWAY NEW JERSEY 07065
(Name and address of purchaser)

3. Location of Installation SAME AS ABOVE
(Name and address)

4. Type VERT Vessel No. 1957 (Name and address) D-1133
(Horiz. or vert. tank) (Mfr's Serial No.) (CRN) (Drawing)
1090 Year Built 1978
(Nat'l Brd No.)

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 _____ and Addenda to _____ and Code Case no. _____
(Year) (Date)

Special service per UG-120(d) _____

ESTIMATE NO. 75-734
P. O. NUMBER 806745
SPEC. NO. B-44
TAG: TA-532

Manufacturers' 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, mfr's name and identifying stamp)

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers
6. Shell: Material SB168-600 Nominal Thickness .078 in. Corrosion Allowance 0 in.
(Spec. No., Grade)
Diam. 5 ft 6 in. Length _____ ft _____ in.

CERTIFICATE OF 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.	
Date _____	Signed <u>ALLOY FAB INC</u> by <u><i>A. Cuddick</i></u> <small>(Manufacturer) (Representative)</small>
"U" Certificate of Authorization No. <u>7130</u>	expires <u>DECEMBER 31</u> , 19____.
CERTIFICATE OF SHOP INSPECTION	
Vessel made by <u>ALLOY FAB INC</u> at <u>SOUTH PLAINFIELD N J</u>	
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 <u>NY</u> and employed by <u>COMM UNION INS CO</u> of <u>BOSTON MASS</u> have inspected the pressure vessel described in this Manufacturers' Data Report on _____, 19____, 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 the Manufacturers' 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 <u><i>A. Cuddick</i></u> Commissions <u>NE # 4683</u> <small>(Inspector) (Nat'l Board, State, Province and No.)</small>
CERTIFICATE OF COMPLIANCE FOR FIELD WORK	
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.	
Date _____	Signed _____ by _____ <small>(Manufacturer) (Representative)</small>
"U" Certificate of Authorization No. _____	expires _____, 19____.
CERTIFICATE OF FIELD ASSEMBLY 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 _____ and employed by _____ of _____ have compared the statements in this Manufacturers' 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 that, 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 Manufacturers' 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 _____ <small>(Authorized Inspector) (Nat'l Board, State, Province and No.)</small>

FORM U-1 (BACK)

7. Seams: Longitudinal **SING FULL PENET** R.T. **NONE** Efficiency **60** %
 (Welded, Dbl, Sngl, Lap, Butt) (Spot or Full)
 H.T. Temp **NONE** F Time _____ Girth **SING FULL PENET**
 (Welded, Dbl, Sngl, Lap, Butt)
 R.T. **NONE** No. of Courses _____
 (Spot, Partial or Full)

8. Heads: (a) Material **SB168-600** (Spec. No., Grade) (b) Material _____ (Spec. No., Grade)
 Location Minimum Thickness Corrosion Allowance Crown Radius Knuckle Radius Elliptical Ratio
XXX Bottom, End _____ **.078** **0** **1-3/4** _____
 (a) _____
 (b) _____
 Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)
 (a) **CONCAVE**
 (b) _____

If removable, bolts used (describe other fastenings) **WELDED TO SHELL & BOTTOM HEAD**
 (Material, Spec. No., Gr., Size, No.)

9. Type of Jacket **3" HALF PIPE COIL** Proof Test **UG-101(o)**
 10. Jacket Closure _____ (Describe as ogee & weld, bar, etc.) If bar, give dimensions _____

If bolted, describe or sketch. _____
 11. Constructed for max. allowable working pressure **150** psi at max. temp. **300°** F Min. temp. (when less than -20 F) _____ F. Hydrostatic, ~~XXXXXXXXXXXX~~ test pressure **225** psi.

Items 12 and 13 to be completed for tube sections
 12. Tubesheets: Stationary—Material _____ (Spec. No., Gr.) Diam. _____ (Subject to pressure) in.
 Nominal Thickness _____ in. Corrosion Allowance _____ in. Attachment _____ (Welded, Bolted)
 Floating—Material _____ (Spec. No., Gr.) Diam. _____ in.
 Nominal Thickness _____ in. Corrosion Allowance _____ in.
 Attachment _____

13. Tubes: Material _____ (Spec. No., Gr.) O.D. _____ in. Nominal Thickness _____ in. or gauge
 Number _____ Type _____ (Straight or "U")

Items 14-17 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers
 14. Shell: Material **SA240-316L** (Spec. No., Gr.) Nominal Thickness **5/16** in. Corrosion Allowance **0** in.
 Diam. **5** ft **6** in. Length **8** ft **2** in.

15. Seams: Longitudinal **DBL BUTT** R.T. **NONE** Efficiency **70** %
 (Welded, Dbl, Sngl, Lap, Butt) (Spot or Full)
 H.T. Temp **NONE** F Time _____ Girth **DBL BUTT**
 (Welded, Dbl, Sngl, Lap, Butt)
 R.T. **NONE** No. of courses _____
 (Spot, Partial or Full)

16. Heads: (a) Material **SA240-316L** (Spec. No., Grade) (b) Material _____ (Spec. No., Grade)
 Location Minimum Thickness Corrosion Allowance Crown Radius Knuckle Radius Elliptical Ratio
XXX _____ **5/16"** **0"** **66"** **4-1/4"** _____
 (a) _____
 (b) _____
 Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)
 (a) **CONCAVE**
 (b) _____

If removable, bolts used (describe other fastenings) **WELDED TO SHELL**
 (Material, Spec. No., Gr., Size, No.)

17. Constructed for max. allowable working pressure **60&FV** psi at max. temp. **300°** F. Min. temp. (when less than -20 F) _____ F. Hydrostatic, ~~XXXXXXXXXXXX~~ test pressure **90** psi.

Items below to be completed for all vessels where applicable
 18. Safety Valve Outlets: Number _____ Size _____ Location _____

19. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached
	1	12"	150#	XXXX	SA240316L	3/8"	SA240304 WELDED
	1	3"	150#	PAD	SA240316L	1"	WELDED
	5	3"	150#	LJ	SA312316L	SCH 40	WELDED
	1	1 1/2"	150#	LJ	SA312316L	SCH 80	WELDED
	2	2"	150#	LJ	SA312316L	SCH 80	WELDED

20. Inspection Openings:
 Manholes No. **1** Size **16"** Location **TOP HEAD**
 S.G. ~~XXXXXX~~ No. **1** Size **4"** Location **TOP HEAD**
 Threaded No. _____ Size _____ Location _____

21. Supports: Skirt **NO** (Yes or no) Lugs **4** (No.) Legs **4** (No.) Other _____ (Describe)
 Attached **WELDED TO BOTTOM HEAD** (Where and how)

22. Remarks: **1500 GALLON HALF PIPE COIL JACKETED EXTRACTOR, TA-532**
PO # RR-806745-A

1 2"150# LJ SA312316L SCH 80 WELDED

**PRESSURE VESSELS
REPORT OF INSPECTION**

Standard Form for Jurisdictions Operating Under the ASME Code

Electronic version of NB-7 as adapted by Merck & Co., Inc.
Under the terms of Owner-User Certificate 50
Merck & Co., Inc., 126 E. Lincoln Ave., Rahway, NJ 07065

1. Date(s) inspected: **8/1/2008** National Board Number **1090**
2. Kind of Inspection (Internal or External): **Internal, UT, Boroscope & External**
3. Object Location (Location Code): **805TA532** Equipment No. **35875**
4. Type of Vessel: **Vertical, Stainless Steel Tank** Manufacturer: **Alloy Fab**
5. Use (storage, process, heat exchange, etc.): **Process**
6. Pressure allowed this inspection: **60** Previous Inspection:
Explain reason for pressure change:
7. Is condition such that a certificate may be issued: If no explain below under Conditions):
Was hydro test done? **No** What pressure? Date:

8. Conditions observed:

The internal surfaces of the shell have no indications of cracks, pitting, erosion, bulging, or other deteriorative conditions. The baffles attachment welds are in good condition and have no indications of cracks or pitting. The baffles and agitator blades bolting are secure.

The internal surfaces of the coil jacket were partially examined via boroscope and have no indications of cracks, pitting, erosion, bulging, or other deteriorative conditions.

The external sheet-metal casing and insulation are in fair condition. The casing has several small areas of deterioration along the north-west side; the insulation is dry and intact.

Future internal inspection and thickness testing can be adjusted to 2018, based on this internal inspection and the corrosion rate of the remaining life calculation from the ultrasonic thickness test results.

9. List ASME Code violations: **None**
10. Name of person to whom ASME Code violations were explained: Joe Adamca, Manny Andrews , Glen Spencer


Lyle Phelps **OU798** **1-Aug-2008**

11. Signature of O-U Inspector/Commission Number/Date

Note: This form is to be printed and placed in I-file by agreement with the State of NJ as stipulated in the Owner-User Manual in accordance with the National Board Inspection Code