

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 Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by NORTHERN DESIGN SERVICES, INC.-SHOP 424 E. DRESDEN ST. KALKASKA, MI 49646
(Name and address of Manufacturer)
2. Manufactured for NATURAL GAS COMPRESSION SERVICES, INC 2480 AEROPARK DR. TRAVERSE CITY, MI 49686
(Name and address of Purchaser)
3. Location of installation UNKNOWN
(Name and address)
4. Type VERT. SCRUBBER 11467 - 20S15CC380 5813 2011
(Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (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 2010
Year
- to NO
(Addenda, if applicable (date)) (Code Case numbers) (Special service per UG-120(d))
6. Shell SA-106B .375" - 19.25" 72"
(Material spec. number, grade) (Nominal thickness) (Corr. allow.) (Inner diameter) (Length (overall))
7. Seams SMLS. - 85 - WELDED, SINGLE BUTT - 70 1
(Long. (welded, dbl., snl., lap, butt)) (R.T. (spot or full)) (Eff., %) (H.T. temp.) (Time, hr) (Girth (welded, dbl., snl., lap, butt)) (R.T. (spot or full)) (Eff., %) (No. of courses)
8. Heads: (a) Material SA-516 GR70 (b) Material SA-516 GR70
(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	.2203"	-	-	-	2:1	-	-	-	CONCAVE
(b)	BOTTOM	.2203"	-	-	-	2:1	-	-	-	CONCAVE

If removable, bolts used (describe other fastenings) _____

9. MAWP 272 N/A at max. temp. 150 N/A
(Internal) (External) (Internal) (External)
- Min. design metal temp. -20 at 272 Hydro. ~~XXXXXX~~ test pressure 354 PSI PROOF TEST: N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
INLET/OUTLET	2	6"-150#	RFWN	SA-106B	SA-105	.432"	-	SA-53B	UW-16.1(c)	TYPE 1	SHELL
SIGHT GLASS	2	3/4"FNPT	T.O.L	SA-105	-	3000#	-	INHERENT	UW-16.1(a)	-	SHELL/B.HEAD
AUTO DUMP	1	1"FNPT	T.O.L	SA-105	-	3000#	-	INHERENT	UW-16.1(a)	-	B.HEAD
MAN. DUMP	1	1"FNPT	CPLG	SA-105	-	3000#	-	INHERENT	UW-16.1(c)	-	B.HEAD
HLLSD/LLC	2	2"FNPT	HLC	SA-105	-	6000#	-	INHERENT	UW-16.1(c)	-	SHELL

11. Supports: Skirt YES Lugs 1 Legs - Other - Attached TOP/BOTTOM HEAD/WELDED
(Yes or no) (Number) (Number) (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, Manufacturer's name and identifying stamp)

FOR NON-LETHAL/NON-CORROSIVE SERVICE. EXEMPT FROM IMPACT TESTING PER UG-20(f) AND UCS-66(c)

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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 33.792

expires 02/05/12

Date 10/5/11 Co. name NORTHERN DESIGN SERVICES, INC. Signed P.KALTENBACH Q.C
(Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by NORTHERN DESIGN SERVICES, INC. at 424 E. DRESDEN ST. KALKASKA, MI 49646

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 MICHIGAN and employed by HSB CT

have inspected the component described in this Manufacturer's Data Report on 10/5/11, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 10/14/11 Signed [Signature] Commissions NB14299A MI300611
(Authorized Inspector) (National Board (incl. endorsements), State, Province, and number)