Williams Field Services

Stewart Dew Point Hickory, PA

7-19-2012

A-Scan Baseline Inspection

Vessel No.: V-200
Vessel Name: Fuel Scrubber

P&ID No: STWT-P01-011

DBI Incorporated
Lincoln Nebraska
4223 Progressive Avenue.Lincoln NE 68504.Telephone: 402-467-1818 Fax: 402-467-1766
Omaha Nebraska
2211 S. 156th Circle.Omaha NE 68130.Telephone:402-330-9612.Fax: 402-330-9640
Overland Park Kansas
11660 West 90th.Overland Park KS 66214.Telephone: 913-888-2321 Fax: 913-888-2351

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

Summary Report

Report Reviewed By: Mitchell Beres

API 510 #30888

Client: Williams Field Services
Location: Stewart Dew Point Hickory, PA

Vessel No.: V-200
Vessel Name: Fuel Scrubber

Inspection Date: 7-19-2012

Type of Inspection: A-Scan Baseline Inspection

Note: An A-Scan baseline inspection was performed on the V-200 Fuel Scrubber. The V-200 Fuel Scrubber meets MAWP of 285 psi with a remaining service life of 2.97 years. The long and short term corrosion rates were determined using the nominal thickness of the vessel.

Next UT Inspection: **1/2/2014** **API 510 para. 6.4**

Next Visual Inspection: **1/2/2014**

								Short Term Corrosion	Long Term Corrosion	Remaining Life
	TNom	**Top**	**Bottom**	**North**	**South**	**East**	**West**	**Rate**	**Rate**	**(Years)**
Top Head				0.372	0.371	0.369	0.374			
TML 1	0.312			0.241	0.243	0.238	0.242	0.017	0.017	2.97
TML 2	0.312			0.243	0.243	0.242	0.244	0.016	0.016	3.40

Client: Williams Field Services
Location: Stewart Dew Point Hickory, PA

Vessel No.: V-200
Vessel Name: Fuel Scrubber

Vessel Parameters

Design Pressure (MAWP):	285 psi	Top Head Material:	SA-516-70
Design Temperature:	100 F	Top Head Type:	2:1 Ellipsoidal
Operating Pressure:	125 psi	Allowable Stress:	20,000
Operating Temperature:	80 F	Joint Efficiency:	.70
Diameter: I.D or O.D	16" OD	Bottom Head Material:	SA-516-70
Length S/S:	5'	Bottom Head Type:	2:1 Ellipsoidal
Shell Material:	SA-106-B	Allowable Stress:	20,000
Allowable Stress:	17,100	Joint Efficiency:	.70
Joint Efficiency:	.70	Date Manufactured:	2008
Corrosion Allowance:	.125	In Service Date:	2008

ASME CODE EDITION USED FOR CALCULATIONS
ASME Section VIII, Division 1. 2007 Edition

Paint Information

Average paint coating thickness:	N/A	Thickness measured with paint:	N/A
Paint Multiplier:	N/A	Thickness measured without paint:	N/A

Name Plate Information

U1A Available:	Yes	ASME stamp present on vessel:	Yes
Name Plate present:	Yes	Rubbing taken:	Digital Photo

Client: Williams Field Services
Location: Stewart Dew Point Hickory, PA

Vessel No.: V-200
Vessel Name: Fuel Scrubber

Vessel Data

Vessel Class:	2	Date Manufactured:	2008
Manufactures Serial #:	G2644-1	In Service Date:	2008
Product in Vessel:	Process Gas	Date of ASME VIII Vessel Mfg. under:	2007
P&ID Drawing #:	011	Code Cases:	None
P&ID Prepared By:	Laurel Mountain Midstream, LLC	Addenda:	None
Manufacturer:	Premier Ind. Inc.	National Board Number:	880
Vessel Length S/S:	5'	Vessel Insulated:	No
Diameter I.D or O.D:	16" OD	Describe openings (if any):	N/A
No. of Shell Sections:	1	ANSI Flange Rating:	150 #
No. of Nozzles:	12	Vessel Orientation:	Vertical
Design Pressure (MAWP):	285 psi	Operating Pressure:	125 psi
Design Temperature:	100 F	Operating Temperature:	80 F
Top Head Type:	2:1 Ellipsoidal	Bottom Head Type:	2:1 Ellipsoidal
Top Head Material:	SA-516-70	Bottom Head Material:	SA-516-70
Top Head Weld Type:	Type 1	Bottom Head Weld Type:	Type 1
Shell Material:	SA-106-B	Shell Weld Type:	Seamless
Radiography:	None	Hydrostatic:	371 psi

Relief Valve Information

Relief Valve Tag Number:	200	Relief Valve Pressure Setting:	285 psi
Relief Valve Test Date:	9/10	Relief Valve Size:	2" x 3"

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PRESSURE VESSEL EXTERNAL INSPECTION

Client:	Williams Field Services	Date Inspected:	7-19-2012
Location:	Stewart Dew Point Hickory, PA	Inspector(s):	Mike Troyer
Vessel No.:	V-200		
Vessel Name:	Fuel Scrubber	Signature:	

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Name Plate present & legible	☒	☐	☐	Good condition
National Board #	☒	☐	☐	880
Manufacturer	☒	☐	☐	Premier Ind. Inc.
Serial #/ Year Built	☒	☐	☐	G2644-1/ 2008
Repair or Rerate Name Plate	☐	☐	☒	N/A

FOUNDATION

Concrete condition (spalling, cracks)	☒	☐	☐	None noted
Foundation settling	☒	☐	☐	Appears level
Coating condition	☐	☐	☒	N/A
Cradle supports (moisture, cracks)	☒	☐	☐	None noted

SUPPORTS

Describe type (legs, saddle, etc.)	☒	☐	☐	Skirt
Corrosion, pitting (describe)	☒	☐	☐	None noted
Weld condition	☒	☐	☐	Good condition
Paint condition	☒	☐	☐	No paint failure noted
Anchor bolts (tightness & corrosion	☒	☐	☐	Appears tight
Insulation deterioration	☐	☐	☒	N/A

SHELL

Corrosion, pitting (describe)	☒	☐	☐	None noted
Bulges/ Blisters/ Deformations	☒	☐	☐	None noted
Weld condition	☒	☐	☐	Good condition
Paint condition	☒	☐	☐	No paint failure noted
Insulation deterioration	☐	☐	☒	N/A
Biological growth	☒	☐	☐	None noted
UT Measurements	☒	☐	☐	See autocad drawing

HEADS

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Corrosion, pitting (describe)	☒	☐	☐	None noted
Bulges/ Blisters/ Deformations	☒	☐	☐	None noted
Weld condition	☒	☐	☐	Good condition
Paint condition	☒	☐	☐	No paint failure noted
Insulation deterioration	☐	☐	☒	N/A
UT Measurements	☒	☐	☐	See autocad drawing

MANWAYS & NOZZLES

Corrosion, pitting (describe)	☒	☐	☐	None noted
Weld condition	☒	☐	☐	Good condition
Flange condition	☒	☐	☐	Good condition
Bolting condition	☒	☐	☐	Good condition
Repad condition	☒	☐	☐	Good condition
Insulation deterioration	☐	☐	☒	N/A
UT Measurements	☒	☐	☐	See autocad drawing

APPURTENANCES

Grounding (tightness & corrosion)	☒	☐	☐	Ground connection is tight
Gauges, Sight glass (damage)	☒	☐	☐	No damage noted
Relief Valve #/ Size/ Set Pressure	☒	☐	☐	200/ 2" x 3"/ 285 psi

LADDERS, STAIRS, PLATFORMS

Corroded, Broken Parts	☐	☐	☒	N/A
Paint condition	☐	☐	☒	N/A
Wear (ladder rungs, stair treads)	☐	☐	☒	N/A
Handrails secure	☐	☐	☒	N/A
Flooring condition	☐	☐	☒	N/A
Tightness (bolts, tie down clips)	☐	☐	☒	N/A
Attachment welds	☐	☐	☒	N/A
Corrosion, pitting (describe)	☐	☐	☒	N/A

ADDITIONAL COMMENTS:


W
ITS
CERTIFIED BY:
ITS Engineered Systems, Inc.
285 PSIG AT 100 °F
MAWP
SIZE
-20 °F AT 285 PSIG
MDMT
285 PSIG
DESIGN PRESS
32644
JOB #
32644-1
SERIAL #
YEAR BUILT
BUILT FOR:
PREMIER INC.

V-200
Fuel Gas Scrubber

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

16" OD X 5'-00" S/S
FUEL GAS

Manufactured and certified by ITS ENGINEEERED SYSTEMS, INC. 6818 FM 2855 KATY, TEXAS 77493
(Name and address of manufacturer)

anufactured for PREMIER INDUSTRIES, INC. 3450 PETERS ROAD HARVEY, LA 70058.
(Name and address of purchaser)

3. Location of installation UNKNOWN
(Name and address)

4. Type: VERTICAL (Horiz. or vert. tank) | G2644-2 (Mfgr's serial No.) | - (CRN) | G2644-3-01-01 REV 0 (Drawing no.) | 881 (Nat'l Bd. No.) | 2008 (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 2007 (Year)

to - (Addenda (Date)) | - (Code Case Nos.) | - (Special Service per UG 120(d))

6. Shell: SA-106B (Matl. (Spec. No., Grade)) | .3120" (Nom. Thk. (in.)) | 0.1250" (Corr. Allow. (in.)) | 16" (Diam. I.D. (ft. & in.)) | 7'-5.25" (Length (overall) (ft. & in.))

7. Seams: SMLS (Long. (Welded, Dbl., Sngl., Lap, Butt)) | NONE (R.T. (Spot or Full)) | .70 (Eff. (%)) | - (H.T. Temp (°F)) | - (Time (hr)) | TYPE 1 (Girth (Welded, Dbl., Sngl., Lap, Butt)) | NONE (R.T. (Spot, Eff.(%) or Full)) | 1 (No. of Courses)

8. Heads: (a) Matl. SA-516-70 (Spec No., Grade) (b) Matl. SA-516-70 (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	.2546"	.1250"	-	-	2:1	-	-	-	CONCAVE
(b)	BOTTOM	.2546"	.1250"	-	-	2:1	-	-	-	CONCAVE

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

9. MAWP 285 (internal) - (external) psi at max. temp. 100 (internal) - (external) °F

Min. design metal temp. -20 °F at 285 psi. Hydro., ~~pneu.~~, ~~comb.~~ test pressure 371 psi.

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
D HOLE	1	8"	RFLWN	SA-105	150#	-	UW-16.1(a)	SHELL
S OUTLET	1	3"	RFLWN	SA-105	150#	-	UW-16.1(a)	HEAD
PRESS IND	1	1/2"	CPLET	SA-105	6000#	-	UW-16.1(a)	SHELL
THERMOMETER	1	3/4"	CPLER	SA-105	6000#	-	UW-16.1(a)	SHELL
INLET,OUTLET	2	2"	RFLWN	SA-105	150#	-	UW-16.1(a)	HEAD/SHELL
DRAIN,LLC,LG,RV	6	2"	RFLWN	SA-105	150#	-	UW-16.1(a)	HEAD/SHELL
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-

11. Supports: Skirt YES (Yes or no) Lugs - (No.) Legs - (No.) Other - (Describe) Attached WELDED TO HEAD (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: -
MATERIAL IS EXEMPT FROM IMPACT TESTING PER UG-20(f).
(Name of part, item number. Mfgr's name and identifying stamp)
-
-
-

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. 20340 expires 12/01/2010.

Date 11/17/08 Co. Name ITS ENGINEEERED SYSTEMS, INC. (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

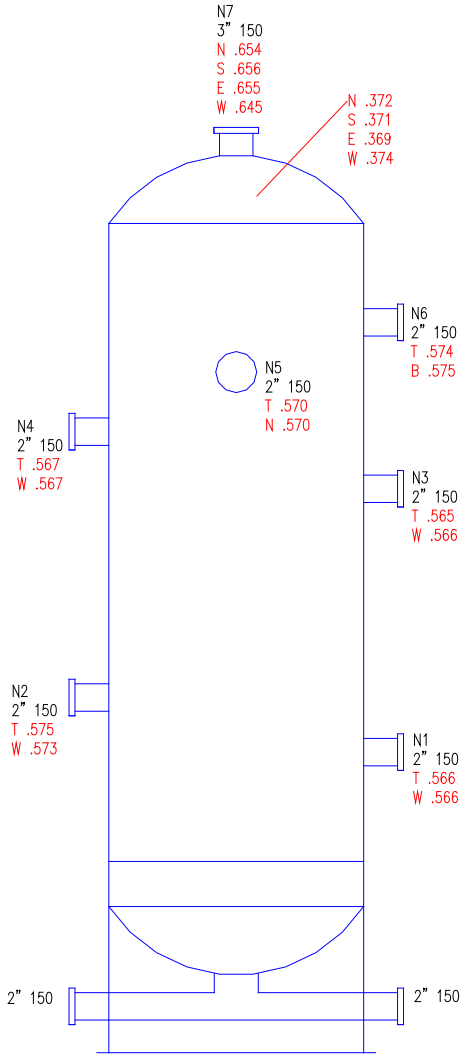
Vessel constructed by ITS ENGINEEERED SYSTEMS, INC. at 6818 FM 2855 KATY, TEXAS 77493

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TEXAS and employed by ONE BEACON AMERICA INSURANCE CO.

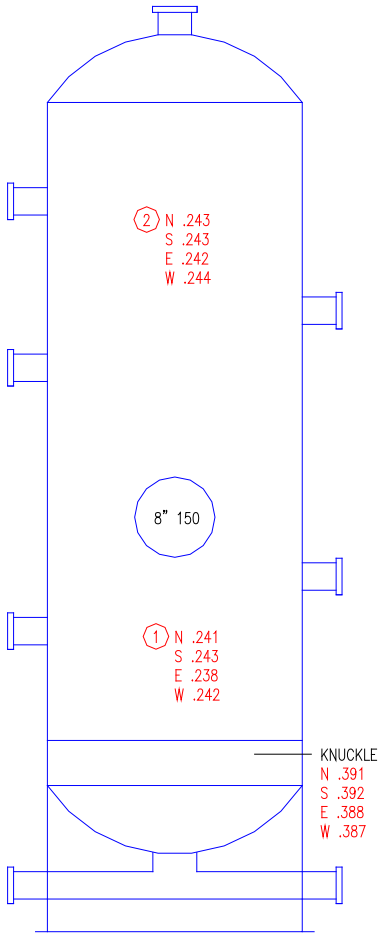
have inspected the component described in this Manufacturer's Data Report on 11/17/08, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector 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 11/17/08 Signed (Authorized Inspector) Commissions - NB # 9932A TX # 1187 (Nat'l Board. (incl. endorsements) State, Prov. and No.)

CEI
Form 1002 Rev. 9



EAST SIDE



WEST SIDE

NOTES

1. P&ID NO: STWT-P01-011
2.
3.
4.
5.
6.

CLIENT: Williams Field Services	**DBI, Incorporated** 5330 N. 57th Street Lincoln, Nebraska 68507
LOCATION: Stewart Dew Point Hickory. PA	
INSPECTION DATE: 7-19-2012	ACAD DWG. FILE: V-200
VESSEL No: V-200	DWN BY: MCS / CKD BY:
VESSEL ID: Fuel Scrubber	MECHANICAL INTEGRITY INSPECTION