Williams Field Services

Stewart Dew Point Hickory, PA

7-23-2012

A-Scan Baseline Inspection

Vessel No.: V-360
Vessel Name: Propane Economizer

P&ID No: STWT-P01-016

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-360
Vessel Name: Propane Economizer

Inspection Date: 7-23-2012

Type of Inspection: A-Scan Baseline Inspection

Note: An A-Scan baseline inspection was performed on the V-360 Propane Economizer. The V-360 Propane Economizer meets MAWP of 265 psi with a remaining service life of 20+ years. The long and short term corrosion rates were determined using the nominal thickness of the vessel.

Next UT Inspection: **7/22/2017** **API 510 para. 6.4**

Next Visual Inspection: **7/22/2017**

								Short Term Corrosion	Long Term Corrosion	Remaining Life
	TNom	**Top**	**Bottom**	**North**	**South**	**East**	**West**	**Rate**	**Rate**	**(Years)**
North Head				0.512						
South Head					0.500					
TML 1	0.375	0.380	0.382			0.379	0.376	<1 mil	<1 mil	20+

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

Vessel No.: V-360
Vessel Name: Propane Economizer

Vessel Parameters

Design Pressure (MAWP):	265 psi	North Head Material:	SA-516-70
Design Temperature:	175 F	North Head Type:	2:1 Ellipsoidal
Operating Pressure:	60 psi	Allowable Stress:	20,000
Operating Temperature:	37 F	Joint Efficiency:	1.0
Diameter: I.D or O.D	30" OD	North Head Material:	SA-516-70
Length S/S:	7'- 6"	North Head Type:	2:1 Ellipsoidal
Shell Material:	SA-516-70	Allowable Stress:	20,000
Allowable Stress:	20,000	Joint Efficiency:	1.0
Joint Efficiency:	1.0	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-360
Vessel Name: Propane Economizer

Vessel Data

Vessel Class:	2	Date Manufactured:	2008
Manufactures Serial #:	135-08	In Service Date:	2008
Product in Vessel:	Process Gas	Date of ASME VIII Vessel Mfg. under:	2007
P&ID Drawing #:	016	Code Cases:	None
P&ID Prepared By:	Laurel Mountain Midstream, LLC	Addenda:	A-07
Manufacturer:	Max Welders, Inc.	National Board Number:	64
Vessel Length S/S:	7'- 6"	Vessel Insulated:	Yes
Diameter I.D or O.D:	30" OD	Describe openings (if any):	1 3/4" Ports
No. of Shell Sections:	1	ANSI Flange Rating:	150 #
No. of Nozzles:	13	Vessel Orientation:	Horizontal
Design Pressure (MAWP):	265 psi	Operating Pressure:	60 psi
Design Temperature:	175 F	Operating Temperature:	37 F
North Head Type:	2:1 Ellipsoidal	North Head Type:	2:1 Ellipsoidal
North Head Material:	SA-516-70	North Head Material:	SA-516-70
North Head Weld Type:	Type 1	North Head Weld Type:	Type 1
Shell Material:	SA-516-70	Shell Weld Type:	Type 1
Radiography:	Full	Hydrostatic:	344.5 psi

Relief Valve Information

Relief Valve Tag Number:	230	Relief Valve Pressure Setting:	265 psi
Relief Valve Test Date:	9-15-2010	Relief Valve Size:	1 1/2" x 2"

DBI, Inc. Quality Inspection and Consulting Services

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

PRESSURE VESSEL EXTERNAL INSPECTION

Client:	Williams Field Services	Date Inspected:	7-23-2012
Location:	Stewart Dew Point Hickory, PA	Inspector(s):	Mike Troyer
Vessel No.:	V-360		
Vessel Name:	Propane Economizer	Signature:	

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Name Plate present & legible	☒	☐	☐	Good condition
National Board #	☒	☐	☐	64
Manufacturer	☒	☐	☐	Max Welders, Inc.
Serial #/ Year Built	☒	☐	☐	135-08/ 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.)	☒	☐	☐	Legs
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	☐	☐	☒	N/A
Weld condition	☐	☐	☒	N/A
Paint condition	☐	☐	☒	N/A
Insulation deterioration	☒	☐	☐	None noted
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	☐	☐	☒	N/A
Weld condition	☐	☐	☒	N/A
Paint condition	☐	☐	☒	N/A
Insulation deterioration	☒	☐	☐	None noted
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	☐	☐	☒	N/A
Insulation deterioration	☒	☐	☐	None noted
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	☒	☐	☐	230/ 1 1/2" x 2"/ 265 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:


Certified by Max Welders, Inc.
psi at MAWP
°F
°F at MDMT
Serial Number
Year Built

V-360 Propane Economizer

CORRECTED COPY

FORM U1A 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

ufactured and certified by Max Welders, Inc., 188 Blackwater Court, Gibson, Louisiana, 70356
(Name and address of Manufacturer)

nufactured for Premier Industries, 3450 Peters Road, Harvey, LA 70058
(Name and address of Purchaser)

Location of installation Standard DPC Plant, Unknown
(Name and address)

4. Type Horizontal (Horiz. or vert. tank) | MW136-08 (Mfgr's serial No.) | None (CRN) | 8PR160FBN-B2 Rev. 0 (Drawing no.) | 65 (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 A-07 [Addenda (Date)] | None (Code Case Nos.) | None [Special Service per UG 120 (d)]

6. Shell: SA 516-70 (Matl. spec. no., grade) | .375" (Nominal thickness) | .125" (Corr. allowance.) | 29.25" (Inner diameter) | 7'-6" [Length (overall)]

7. Seams: Type 1 [Long. (welded, dbl., sngl., lap, butt)] | Full [R.T. (spot or full)] | 100 (Eff. %) | None (H.T. temp.) | NA (Time, hr) | Type 1 [Girth (welded, dbl., sngl., lap, butt)] | Full [R.T. (spot, partial, or full)] | 100% (Eff. %) | 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)	End	.3828"	.125"	—	—	2:1	—	—	—	Concave
(b)	End	.3828"	.125"	—	—	2:1	—	—	—	Concave

If removable, bolts used (describe other fastenings) None
(Matl., spec. no., gr., size, no.)

9. MAWP 265 (Internal) | None (External) psi at max. temp. 175 °F (Internal) | None. (External)

Min. design metal temp. -20°F at 265 . Hydro., ~~pneu.~~, ~~or comb.~~ test pressure 344.5 .

zzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
Inlet	1	6"	150# RFLWN	SA 105	.88"	Weld Metal	* (e)	Head
Outlet	1	4"	150# RFLWN	SA 105	.75"	Weld Metal	* (e)	Shell
PSV	1	2"	150# RFLWN	SA 105	.53"	Weld Metal	* (e)	Shell
See attached U-4 Form								

11. Supports: Skirt No (Yes or no) Lugs 2 (No.) Legs NA (No.) Other (2) Saddles (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 this report:
*Figure from UW16.1. Over pressure protection required by UG 125 to be provided by user.
(Name of part, item number. Mfgr's name and identifying stamp)
Exempt from impact testing per UG 20(f). Inspection openings per UG-46 (f)(3).

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 No. 28240 expires 3/9/2010 .

Date 10-28-08 Co. name Max Welders, Inc. (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Max Welders, Inc. at 188 Blackwater Court, Gibson, Louisiana

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Louisiana and employed by HSB CT me 10-28-08 MP 250 have inspected the component described in this Manufacturer's Data Report on 9-19, 2008, 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 10-28-08 Signed (Authorized Inspector) Commissions NB9475A LA841 (Nat'l Board. (incl. endorsements) State, Prov. And No.)

V-300 Propane Economizer

CORRECTED COPY

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

anufactured and certified by Max Welders, Inc., 188 Blackwater Court, Gibson, Louisiana, 70356
(Name and address of Manufacturer)

Manufactured for Premier Industries, 3450 Peters Road, Harvey, LA 70058
(Name and address of Purchaser)

3. Location of installation Standard DPC Plant, Unknown
(Name and address)

4. Type: Horizontal (Horiz., vert., or sphere) | Economizer (Tank, separator, heat exh., etc) | MW136-08 (Mfg's serial no.)

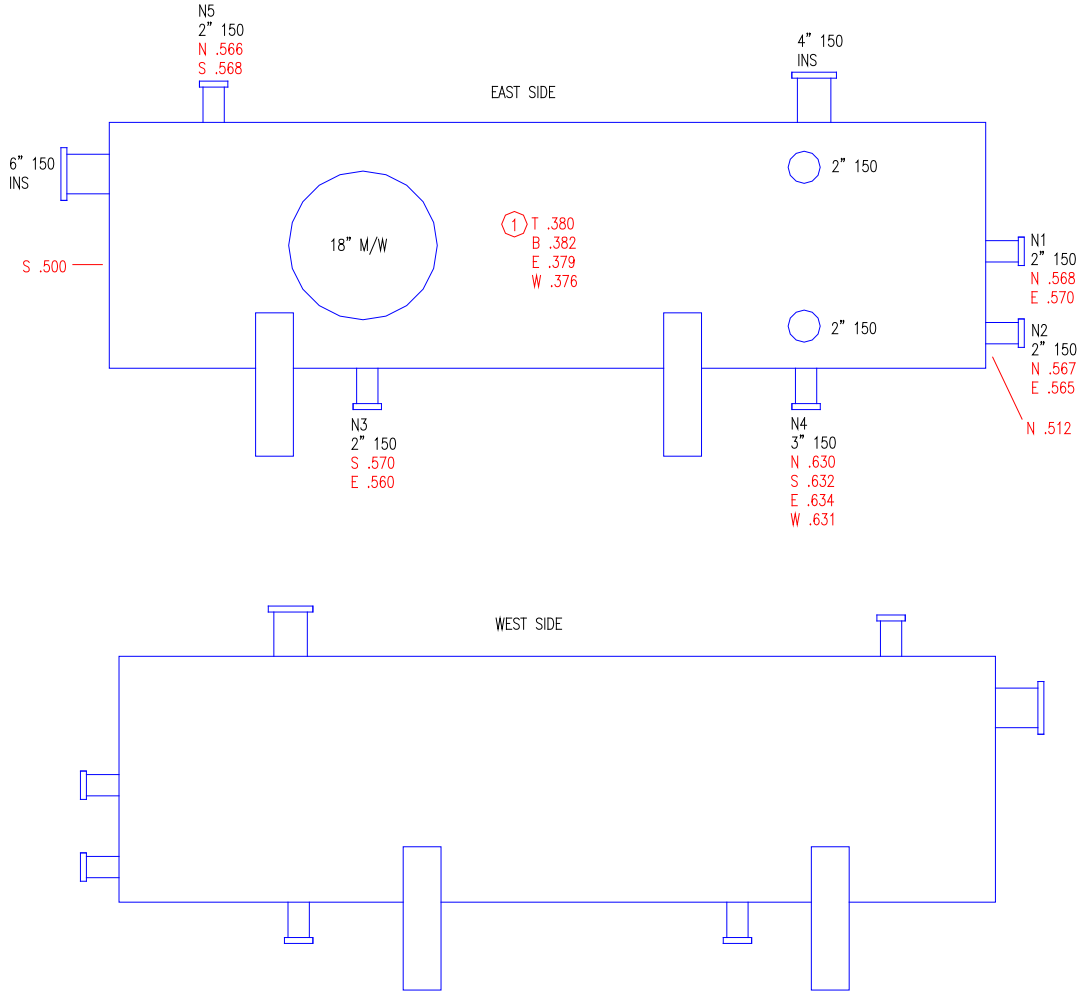
None (CRN) | 8PR160FBN-B2 Rev. 0 (Drawing no.) | 65 (Nat'l Bd. No.) | 2008 (Year built)

Data Report Item Number			Remarks				
Item 10 Continued from U1A							
Outlet	1	3"	150# RFLWN	SA105	.62"	Weld metal	* (e)	Shell
Bridle/Drain	3	2"	150# RFLWN	SA105	.53"	Weld metal	* (e)	Shell
L.C.	2	2"	150# RFLWN	SA105	.53"	Weld metal	* (e)	Head
T.I.	1	.750"	6M CPLG	SA105	.350"	Weld metal	* (y1)	Shell
PT/Spare	2	.500"	6M CPLG	SA105	.330"	Weld metal	* (y1)	Shell
MW	1	18"	150# RF	SA105	1"	Weld metal	* (y1)	Shell

Certificate of Authorization: Type "U" No. 28240 Expires 3/9 20 10

Date 10-28-08 Name Max Welders, Inc. (Manufacturer) Signed (Representative)

Date 10-28-08 Name (Authorized Inspector) Commission NB9475A LA841
[Nat'l Board (incl. endorsements), State, Province and no.]



NOTES

1. P&ID NO: STWT-P01-016
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: 7-23-2012	ACAD DWG. FILE: V-360	
VESSEL No: V-360	DWN BY: MCS	CKD BY:
VESSEL ID: Propane Economizer	MECHANICAL INTEGRITY INSPECTION	