



DBI, Inc. Quality Inspection and Consulting Services

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

Williams Field Services

Stewart Dew Point Hickory, PA

7-18-2012

A-Scan Baseline Inspection

Vessel No.: E-370

Vessel Name: Refrigerant Reclaimer

P&ID No: STWT-P01-006



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



Summary Report

Report Reviewed By:

API 510 #30888

Client: Williams Field Services

Location: Stewart Dew Point Hickory, PA

Vessel No.: E-370

Vessel Name: Refrigerant Reclaimer

Inspection Date: 7-18-2012

Type of Inspection: A-Scan Baseline Inspection

Note: An A-Scan baseline inspection was performed on the E-370 Refrigerant Reclaimer. The E-370 Refrigerant Reclaimer meets MAWP of 210 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: 7/17/2017

API 510 para. 6.4

Next Visual Inspection: 7/17/2017

								Short Term	Long Term	Remaining
								Corrosion	Corrosion	Life
	TNom	Top	Bottom	North	South	East	West	Rate	Rate	(Years)
TML 1	0.375			0.384				<1 mil	<1 mil	20+
TML 2	0.375					0.390		<1 mil	<1 mil	20+
TML 3	0.375			0.390				<1 mil	<1 mil	20+
TML 4	0.375				0.378			<1 mil	<1 mil	20+



Client: Williams Field Services

Location: Stewart Dew Point Hickory, PA

Vessel No.: E-370

Vessel Name: Refrigerant Reclaimer

Vessel Parameters

Design Pressure (MAWP):	210 psi	Top Head Material:	SA-350-LF2
Design Temperature:	200 F	Top Head Type:	Flat
Operating Pressure:	.5 psi	Allowable Stress:	20,000
Operating Temperature:	165 F	Joint Efficiency:	1.0
Diameter: I.D or O.D	12.75" OD	Bottom Head Material:	SA-516-70
Length S/S:	4'-9"	Bottom Head Type:	2:1 Ellipsoidal
Shell Material:	SA-106-B	Allowable Stress:	20,000
Allowable Stress:	17,100	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



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Client: Williams Field Services

Location: Stewart Dew Point Hickory, PA

Vessel No.: E-370

Vessel Name: Refrigerant Reclaimer

Vessel Data

Vessel Class:	2	Date Manufactured:	2008
Manufactures Serial #:	AL-1058-B-32	In Service Date:	2008
Product in Vessel:	Process Gas	Date of ASME VIII Vessel	2007
		Mfg. under:	
P&ID Drawing #:	006	Code Cases:	None
P&ID Prepared By:	Laurel Mountain Midstream, LLC	Addenda:	2007
Manufacturer:	Premier Industries, Inc.	National Board Number:	25
Vessel Length S/S:	4'-9"	Vessel Insulated:	Yes
Diameter I.D or O.D:	12.75" OD	Describe openings (if any):	1 3/4" Ports
No. of Shell Sections:	1	ANSI Flange Rating:	300 #
No. of Nozzles:	4	Vessel Orientation:	Vertical
Design Pressure (MAWP):	210 psi	Operating Pressure:	.5 psi
Design Temperature:	200 F	Operating Temperature:	165 F
Top Head Type:	Flat	Bottom Head Type:	2:1 Ellipsoidal
Top Head Material:	SA-350-LF2	Bottom Head Material:	SA-516-70
Top Head Weld Type:	Single Butt	Bottom Head Weld Type:	Single Butt
Shell Material:	SA-106-B	Shell Weld Type:	Seamless
Radiography:	Full	Hydrostatic:	65 psi

Relief Valve Information

Relief Valve Tag Number:	130B	Relief Valve Pressure Setting:	210 psi
Relief Valve Test Date:	9/10/10	Relief Valve Size:	3" x 4"



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PRESSURE VESSEL EXTERNAL INSPECTION

Client: Williams Field Services Date Inspected: 7-18-2012
Location: Stewart Dew Point Hickory, PA Inspector(s): Mike Troyer
Vessel No.: E-370
Vessel Name: Refrigerant Reclaimer Signature:

NAME PLATE

Item Inspected	Yes	No	NA = Not Applicable	Comments:
Name Plate present & legible	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Good condition
National Board #	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25
Manufacturer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Premier Industries, Inc.
Serial #/ Year Built	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AL-1058-B-32/ 2008
Repair or Rerate Name Plate	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

FOUNDATION

Concrete condition (spalling, cracks)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None noted
Foundation settling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Appears level
Coating condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Cradle supports (moisture, cracks)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None noted

SUPPORTS

Describe type (legs, saddle, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Legs
Corrosion, pitting (describe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None noted
Weld condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Good condition
Paint condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No paint failure noted
Anchor bolts (tightness & corrosion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Appears tight
Insulation deterioration	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

SHELL

Corrosion, pitting (describe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None noted
Bulges/ Blisters/ Deformations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Weld condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Paint condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Insulation deterioration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None noted
Biological growth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None noted
UT Measurements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See autocad drawing



HEADS

Item Inspected	Yes	No	NA = Not Applicable	Yes	No	N/A	Comments:
Corrosion, pitting (describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Bulges/ Blisters/ Deformations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Weld condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Paint condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Insulation deterioration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				None noted
UT Measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A

MANWAYS & NOZZLES

Corrosion, pitting (describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Weld condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Flange condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Bolting condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Repad condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Insulation deterioration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				None noted
UT Measurements	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A

APPURTENANCES

Grounding (tightness & corrosion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Ground connection is tight
Gauges, Sight glass (damage)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Relief Valve #/ Size/ Set Pressure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				130B/ 3" x 4"/ 210 psi

LADDERS, STAIRS, PLATFORMS

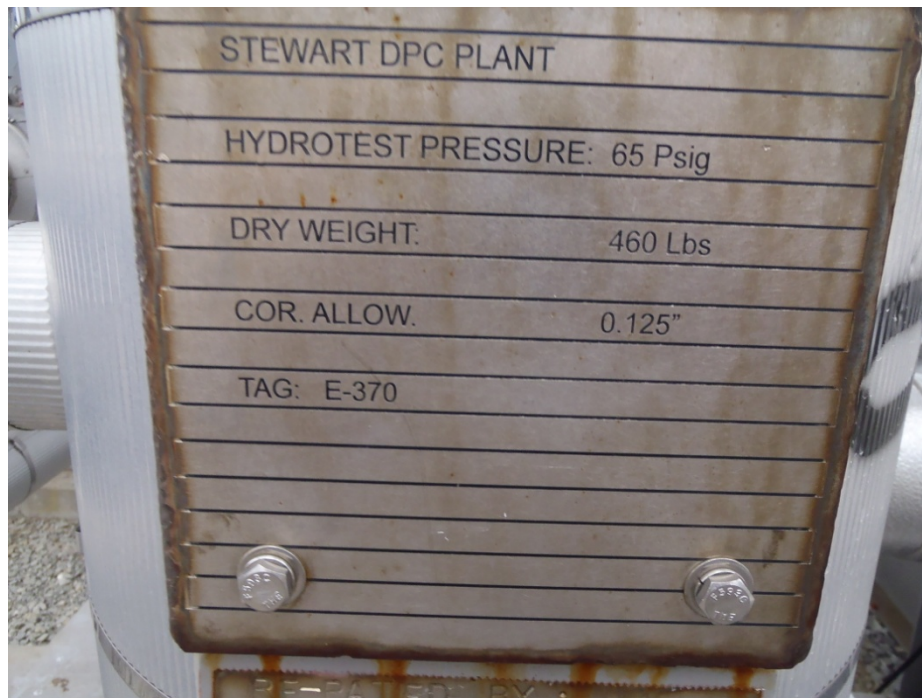
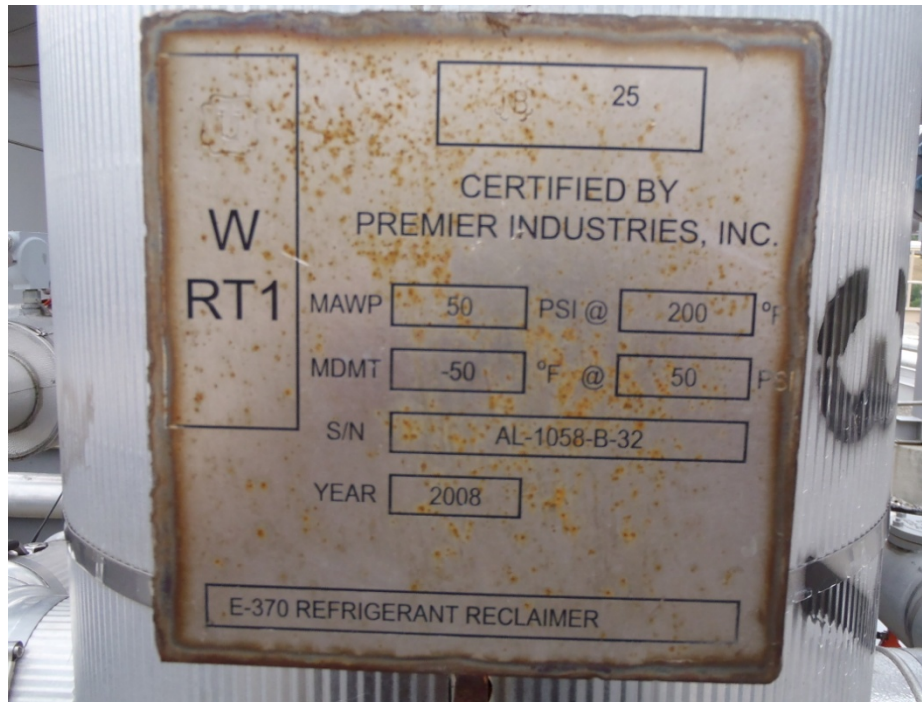
Corroded, Broken Parts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Paint condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Wear (ladder rungs, stair treads)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Handrails secure	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Flooring condition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Tightness (bolts, tie down clips)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Attachment welds	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A
Corrosion, pitting (describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				N/A

ADDITIONAL COMMENTS:



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E-370 *

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

Manufactured and certified by PREMIER INDUSTRIES, INC. 3450 PETERS ROAD HARVEY LOUISIANA 70058 USA
(Name and address of Manufacturer)

Manufactured for STEWART DPC PLANT
(Name and address of Purchaser)

Location of installation PENNSYLVANIA
(Name and address of Purchaser)

4. Type VERTICAL AL-1058-B-32 (Name and address)
(Horizontal or vertical, tank) (Manufacturer's serial number) (CRN)

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
(Drawing number) AL-1058-B-32 Sht 1 - 2 (National Board number) 25 (Year built) 2008

6. Shell SA106 GR B 375" 125" 12.75" OD 4'-9" S/S
(Material spec. number, grade) (Nominal thickness) (Corr. allow.) (Inner diameter) (Length overall)
[Long. (welded, dnt., singl., lap, butt)] [R. T. (spot or full)] [Eff. %] (Time, hr) [Girth (welded, dnt., singl., lap, butt)] [R. T. (spot or full)] [Eff. %] (No. of courses)

7. Seams SMLS Seamless 100 N.A. 0 SINGLE V BUTT Full 100 1
[Long. (welded, dnt., singl., lap, butt)] [R. T. (spot or full)] [Eff. %] (Time, hr) [Girth (welded, dnt., singl., lap, butt)] [R. T. (spot or full)] [Eff. %] (No. of courses)

8. Heads: (a) Material SA350 LF2 CL1 (b) Material SA-516 70 NORMALIZED
(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	1.0986"	.125"	---	---	2:1	---	---	1'-7"	---
(b) BOTTOM	.250"	.125"	---	---	---	---	---	---	CONCAVE

If removable, bolts used (describe other fastenings) TWELVE (12) - 7/8" X 5-1/4" LONG SA193B7/SA1942H W/ ONE 16.125" OD X 13" ID X .250" 304L SPACER
(Material spec. number, grade, size, number)

9. MAWP 50 PSIG 0 Psig 200 F
(Internal) (External) at max. temp.

Min. design metal temp. -50 F
(Internal) (External)

10. Nozzles, inspection, and safety valve openings:
Purpose Hydro., pneu., or comb. test pressure (Internal) (External) 65 PSIG

Location (Inlet, Outlet, Drain)	Number	Diameter or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
HOT PROPANE IN	1	1" 6000#	CPLG	SA105	.468"	INTEGRAL	UW-16.1(c)	TOP HEAD
HOT PROPANE OUT	1	1" 6000#	CPLG	SA105	.468"	INTEGRAL	UW-16.1(c)	TOP HEAD
VAP. PROPANE OUT	1	1-1/2" 6000#	CPLG	SA105	.55"	INTEGRAL	UW-16.1(c)	TOP HEAD
LIQ. PROPANE IN	1	1" 6000#	CPLG	SA105	.468"	INTEGRAL	UW-16.1(c)	SHELL

11. Supports: Skirt NO Lugs NONE Legs 3 Other N.A.
(Yes or no) (Number) (Number) (Describe)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following
(Where and how)
Items of the report: Top Flange of vessel is one (1) 12" 150" RFWN Flange (SA350-LF2/CL1) No Impact Testing Required Per UCS-66(b)(c). SA350-LF2 Flange and
(Name of part, item number, Manufacturer's name and identifying stamp)
Blind impact tested at -50 F. Design loading per UG-22(a)(b)(d)(f). Relief protection per UG-125 provided by others. Vessel hydrostatically tested in vertical position.

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 33159
expires 03/22/11
Date 02-27-09 Co. name PREMIER INDUSTRIES, INC. Signed Charles M. Boush
(Manufacturer) (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION
Vessel constructed by PREMIER INDUSTRIES, INC. at 3450 PETERS ROAD HARVEY, LOUISIANA 70058 USA
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 LOUISIANA
and employed by ONE BEACON AMERICA INSURANCE COMPANY
have inspected the component described in this Manufacturer's Data Report on 2/27/09, 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 2/27/09 Signed [Signature] Commissions NS11353-A LA1508
(Authorized Inspector) (National Board (incl. endorsements), State, Province, and number)

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F-370*

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

Manufactured and certified by PREMIER INDUSTRIES, INC. 3450 PETERS ROAD HARVEY LOUISIANA 70058 USA

Manufactured for STEWART DPC PLANT (Name and address of Manufacturer)

Location of installation **PENNSYLVANIA** (Name and address of Purchaser)

4. Type:	VERTICAL	(Name and address)	
	(Horizontal, vertical, or sphere)	REFRIGERANT RECLAIMER	AL-1058-B-32
	--	(Tank, separator, heat exch., etc.)	(Manufacturer's serial number)
		AL-1058-B-32 SHT 1-2	25
	(CRN)	(Drawing number)	2008
Nozzles, inspection, and safety valve openings:			

[illegible]Data Report
Item Number

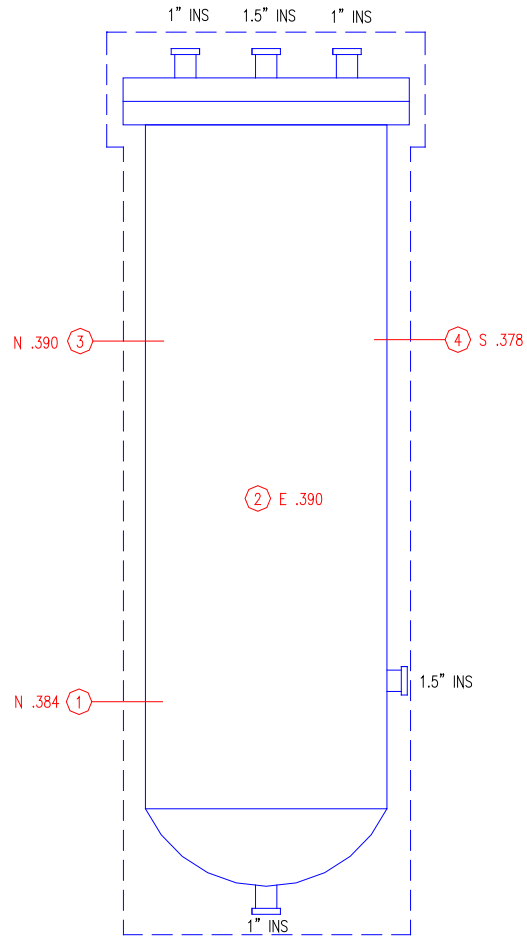
Remarks

Certificate of Authorization: Type U No. 33159 Expires 3/22/2011

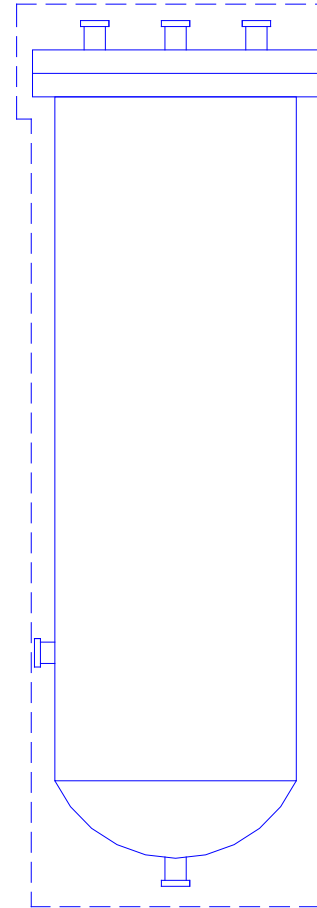
D. 02-27-09 Name PREMIER INDUSTRIES, INC. Signed Chas. W. McDaniel

Date 2/27/09 Name [Signature] (Authorized Inspector) Commissions NB 11393-A* (Representative) LA1508

WEST SIDE



EAST SIDE



NOTES

1. P&ID NO: STWT-P01-006
- 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: 7-18-2012	ACAD DWG. FILE: E-370	
VESSEL No: E-370	DWN BY: MCS	CKD BY:
VESSEL ID: Refrigerant Reclaimer	MECHANICAL INTEGRITY INSPECTION	