Williams Field Services

Stewart Dew Point Hickory, PA

7-19-2012

A-Scan Baseline Inspection

Vessel No.: AC-190
Vessel Name: Condensate Cooler

P&ID No: STWT-P01-008

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.: AC-190
Vessel Name: Condensate Cooler

Inspection Date: 7-19-2012

Type of Inspection: A-Scan Baseline Inspection

Note: An A-Scan baseline inspection was performed on the AC-190 Condensate Cooler. The AC-190 Condensate Cooler meets MAWP of 300 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: **7/18/2017** **API 510 para. 6.4**

Next Visual Inspection: **7/18/2017**

								Short Term Corrosion Rate	**Long Term Corrosion Rate**	**Remaining Life (Years)**
	TNom	**Top**	**Bottom**	**North**	**South**	**East**	**West**			
TML 1	1.000			1.053				<1 mil	<1 mil	20+
TML 2	0.500	0.503	0.502					<1 mil	<1 mil	20+
TML 3	0.500	0.506	0.504					<1 mil	<1 mil	20+
TML 4	1.000			1.049				<1 mil	<1 mil	20+
TML 5	1.000				1.053			<1 mil	<1 mil	20+
TML 6	0.500	0.510	0.502					<1 mil	<1 mil	20+
TML 7	0.500	0.506	0.503					<1 mil	<1 mil	20+
TML 8	1.000				1.041			<1 mil	<1 mil	20+

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

Vessel No.: AC-190
Vessel Name: Condensate Cooler

Vessel Parameters

Design Pressure (MAWP):	300 psi	North Head Material:	SA-516-70N
Design Temperature:	225 F	North Head Type:	Flat
Operating Pressure:	180 psi	Allowable Stress:	20,000
Operating Temperature:	126 F	Joint Efficiency:	Corner Joint
Diameter: I.D or O.D	Fr. 5.8138" Bk. 9.875"	South Head Material:	SA-516-70N
Length S/S:	12'-11"	South Head Type:	Flat
Shell Material:	N/A	Allowable Stress:	20,000
Allowable Stress:	N/A	Joint Efficiency:	Corner Joint
Joint Efficiency:	N/A	Date Manufactured:	2008
Corrosion Allowance:	.125	In Service Date:	2008

ASME CODE EDITION USED FOR CALCULATIONS
ASME Section VIII, Division 1. 2004 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.: AC-190
Vessel Name: Condensate Cooler

Vessel Data

Vessel Class:	2	Date Manufactured:	2008
Manufactures Serial #:	2008B5351-A	In Service Date:	2008
Product in Vessel:	Process Gas	Date of ASME VIII Vessel Mfg. under:	2004
P&ID Drawing #:	008	Code Cases:	None
P&ID Prepared By:	Laurel Mountain Midstream, LLC	Addenda:	2006 ADD
Manufacturer:	SmithCo	National Board Number:	11571
Vessel Length S/S:	12'-11"	Vessel Insulated:	No
Diameter I.D or O.D:	Fr. 5.8138" Bk. 9.875"	Describe openings (if any):	N/A
No. of Shell Sections:	None	ANSI Flange Rating:	150 #
No. of Nozzles:	6	Vessel Orientation:	Horizontal
Design Pressure (MAWP):	300 psi	Operating Pressure:	180 psi
Design Temperature:	225 F	Operating Temperature:	126 F
North Head Type:	Flat	South Head Type:	Flat
North Head Material:	SA-516-70N	South Head Material:	SA-516-70N
North Head Weld Type:	Corner Joint	South Head Weld Type:	Corner Joint
Shell Material:	N/A	Shell Weld Type:	N/A
Radiography:	N/A	Hydrostatic:	390 psi

Relief Valve Information

Relief Valve Tag Number:	237	Relief Valve Pressure Setting:	250 psi
Relief Valve Test Date:	9/10/10	Relief Valve Size:	1 1/2 "x 2"

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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.:	AC-190		
Vessel Name:	Condensate Cooler	Signature:	

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Name Plate present & legible	☒	☐	☐	Good condition
National Board #	☒	☐	☐	11571
Manufacturer	☒	☐	☐	SmithCo
Serial #/ Year Built	☒	☐	☐	2008B5351-A/ 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)	☐	☐	☒	N/A
Bulges/ Blisters/ Deformations	☐	☐	☒	N/A
Weld condition	☐	☐	☒	N/A
Paint condition	☐	☐	☒	N/A
Insulation deterioration	☐	☐	☒	N/A
Biological growth	☐	☐	☒	N/A
UT Measurements	☐	☐	☒	N/A

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	☐	☐	☒	N/A
Insulation deterioration	☐	☐	☒	N/A
UT Measurements	☒	☐	☐	See autocad drawing

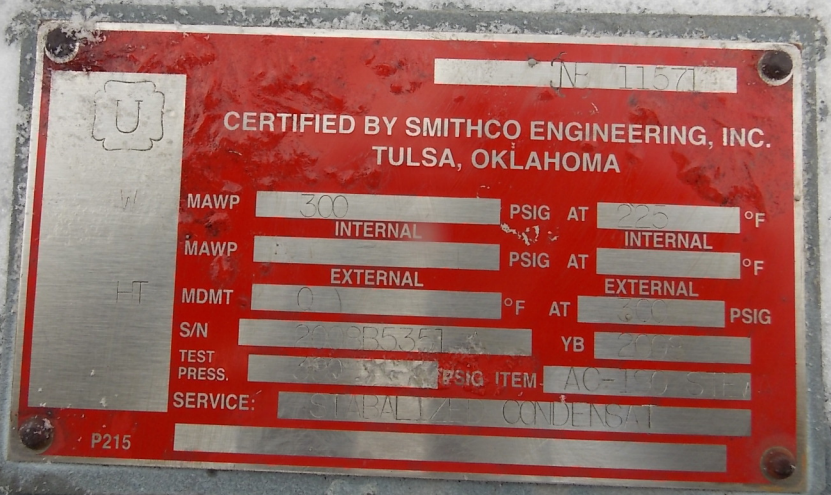
APPURTENANCES

Grounding (tightness & corrosion)	☒	☐	☐	Ground connection is tight
Gauges, Sight glass (damage)	☒	☐	☐	No damage noted
Relief Valve #/ Size/ Set Pressure	☒	☐	☐	237/ 1 1/2 "x 2"/ 250 psi

LADDERS, STAIRS, PLATFORMS

Corroded, Broken Parts	☒	☐	☒	None noted
Paint condition	☒	☐	☒	No paint failure noted
Wear (ladder rungs, stair treads)	☒	☐	☒	None noted
Handrails secure	☒	☐	☒	Handrails are secure
Flooring condition	☒	☐	☒	Good condition
Tightness (bolts, tie down clips)	☒	☐	☒	Appear tight
Attachment welds	☒	☐	☒	Good condition
Corrosion, pitting (describe)	☒	☐	☒	None noted

ADDITIONAL COMMENTS:


N 1157
U
W
HT
CERTIFIED BY SMITHCO ENGINEERING, INC.
TULSA, OKLAHOMA
MAWP
300
PSIG AT
225
°F
INTERNAL
MAWP
PSIG AT
°F
INTERNAL
EXTERNAL
MDMT
°F AT
PSIG
EXTERNAL
S/N
YB
TEST
PRESS.
PSIG ITEM
SERVICE:
CONDENSAT
P215

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

1/2

1. Manufactured and certified by SMITHCO Engineering, Inc., 6211 S. 39th W. Avenue, Tulsa, Oklahoma 74132 (Name and address of manufacturer)
2. Manufactured for PREMIER INDUSTRIES, INC Harvey, LA (Name and address of purchaser)
3. Location of installation Premier Industries, Inc. unknown (Name and address)
4. Type Horiz(Non-Cir) (Horiz. or vert. tank) | 2008B-5351-A (Mfgr's serial No.) | ---------- (CRN) | 2008B-5351 (Drawing No.) | 11571 (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 2004 (Year)

to 2006 ADD (Addenda (Date)) | (Code Case Nos.) | -- (Special Service per UG-120(d))

6. Shell: Tube & Plug Sheets: SA-516 GR-70 N (Matl. (Spec. No., Grade)) | Fr 1.000/ Bk 1.000 (Nom. Thk. (in.)) | .1250 (Corr. Allow. (in.)) | Fr 0' 7.8750"/Bk 0' 7.8750" (Diam. I.D. (ft. & in.)) | 5' 11.7500" (Length (overall) (ft. & in.))
7. Seams: Corner Joint (Long. (Welded., Dbl., Sngl., Lap, Butt)) | ---- (R.T. (Spot or Full)) | 100 (Eff(%)) | 1150 (H.T. Temp. (°F)) | 45min. (Time (hr)) | ---- (Girth (Welded, Dbl., Spot, Lap, Butt)) | ---- (R.T. (Spot, Partial or Full)) | 1 (No. of Courses)
8. Heads: (a) Matl. (a) Covers: SA-516 GR-70 N (Spec. No., Grade) b) Matl. (b) Ends: SA-516 GR-70 N (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)	Fr/Bk	0.500/0.500	0.1250	--	--	--	--	--	1.8750/1.8750 x 71.7500	Flat
(b)	Fr/Bk	0.500/0.500	0.1250	--	--	--	--	--	1.8750/1.8750 x 7.3125/7.3125	Flat

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

9. MAWP 300 (internal) ____ (external) psi at max. temp 225 (internal) ____ (external) °F

Min. design metal temp. 0 °F at 300 psi. Hydro., ~~pneu., or comb.~~ test pressure 390 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
Inlet/Outlet	1/1	2"300/160	RFWN	SA-105/	0.344	Integral	UW-16.1(a)	Front Head
Vent/Drain	2	1.0	6000CPLG	SA-105		Integral	UW-16.1(a)	Back Head

11. Supports: Skirts No (Yes or No) Lugs ____ (No.) Legs 4 (No.) Other ____ (Describe) Attached Welded to covers (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:

INLET & RETURN BOX HEADER, 2238AF/AB, ENTERPRISE WELDING,LLC,"U" (Name of part, item number, Mfgr's name and identifying stamp)

Impact testing exempt per: UG-20(f) Item: AC-190 STEWA Service: STABALIZED CONDENSAT
Tubes: SA-214 WLD- 122 x 1.00" x .083" x 7.0000'-Straight
Constructed in conformance with appendix 28

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. 4175 expires February 28th, 2009.

Date 09-24-2008 Co. name SMITHCO Engineering, Inc. (Manufacturer) Signed [signature] (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by SMITHCO Engineering, Inc. at Tulsa, Oklahoma

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Province of Oklahoma and employed by Seneca Insurance Company of Texas have inspected the component described in this Manufacturer's Data Report on 9/17 20 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. Futhermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or loss of any kind arising from or connected with this inspection.

Date 9/25/08 Signed [signature] (Authorized Inspector) Commissions NB12736 A OK914 (Nat'l Board (incl. endorsements), State, Prov. and No.)

2/2
#11571

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Enterprise Welding, LLC, 7415 New Sapulpa Road, Sapulpa, Ok. 74131
(Name and address of Manufacturer)

2. Manufactured for Smithco, Inc., 6211 S. 39th W. Ave., Tulsa, Oklahoma 74132
(Name and address of Purchaser)

3. Location of installation UNKNOWN
(Name and address)

4. Type: INLET & RETURN BOX HEADER [Description of vessel part (shell, two-piece head, tube bundle)] | 2238AF/AB (Manufacturer's serial number) | (CRN)

(National Board number) | 2008 B 535 1 (Drawing number) | SMITHCO, INC. (Drawing prepared by) | 2008 (Year built)

5. ASME Code Section VIII Div 1 2007/2007 [Edition and Addenda (date)] | (Code Case number) | [Special Service per UG-120(d)]

6. Shell (a) No. of course (s): (WRAPPER) 4EA. (b) Overall Length : 71.750"

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff	Temp.	Time
2	1.8750"	71.750"	SA-516-70N	.500"	.125"	C.J.	NONE	100	C.J.	NONE	100	NONE	N/A
2	1.8750"	71.750"	SA-516-70N	.500	.125"	C.J.	NONE	100	C.J.	NONE	100	NONE	N/A

7. Heads: (a) FRONT HEADER ENDPLATES SA-516-70N (Material spec. number, grade or type) (H.T. – time & temp) (b) BACK HEADER ENDPLATES SA-516-70N (Material spec. number, grade or type) (H.T. – time & temp)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff
(a)	(2) FR. ENDS	.500"	.125"					1.8750" X	7.3125"					
(b)	(2) BK. ENDS	.500"	.125"					1.8750" X	7.3125"					

If removable, bolts used (describe other fastenings) N/A
(Material spec. number, grade, size, number)

8. MAWP N/A (Internal) | (External) at max temp. N/A (Internal) | (External) Min. design metal temp. N/A at N/A

9. Impact Test NO. Indicate yes or no and the component(s) impact tested at test temperature of

10. Hydro., pneu., or comb. test press. NONE Proof Test

11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
INLET	1	2" 300#	RFWN		SA-105	160	.125"	-	UW16.1a	TYPE 1	hdr
OUTLET	1	2"300#	RFWN		SA-105	160	.125"	-	UW16.1a	TYPE 1	hdr

12. Identification of parts

Name of Part	Quantity	Line No.	Mfr's Identification No.	Mfr's Drawing no.	CRN	National Board No.	Year Built
N/A							
N/A							

13. Supports: Skirt NO (Yes or No) Lugs (Number) Legs (Number) Others (Describe) Attached (Where and how)

14. Remarks NO DESIGN BY ENTERPRISE WELDING, LLC. WPS QUALIFIED IN PWHT & NO PWHT CONDITIONS. IN ACCORDANCE WITH APP. 28.
INSP. OPEN.:(122)15/16"X UNF. PLUG SHEET(1)VENT(1)DRAIN 1"6000# CPLG,UW16.1a, HDR.
(4) TUBE & PLUG SHEETS: SA-516-70N, INLET /OUTLET 1.000" X 8.6250" X 71.750"

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction and workmanship of this pressure vessel part conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1.

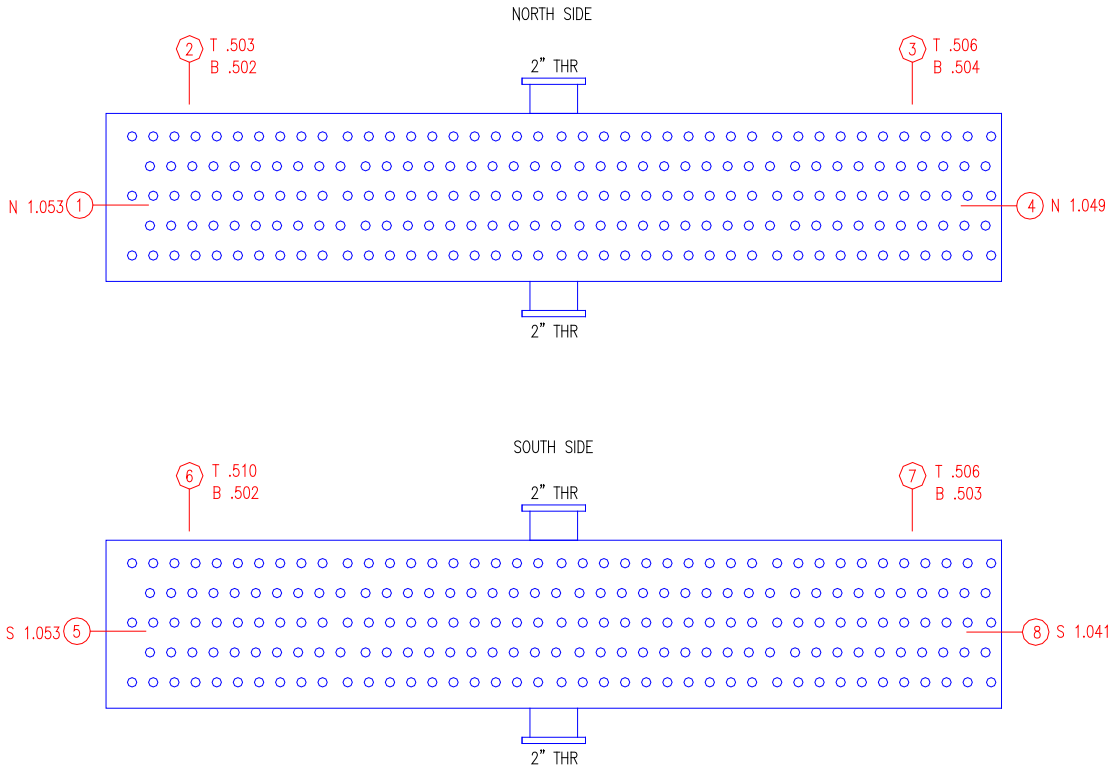
U Certificate of Authorization No. 35,987 Expires 08/25/2009

Date 9/18/08 Name Enterprise Welding, LLC (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP/FIELD 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 OKLAHOMA and employed by OneBeacon America Insurance Company of Lynn, Ma.
have inspected the pressure vessel part described in this Manufacturer's Data Report on 9/18/08
and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part 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 9/19/08 Signed Michael K. Pope (Authorized Inspector) Commissions OK 572 [National Board (Incl endorsements) State, Province and number]



NOTES

1. P&ID NO: STWT-P01-008
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: AC-190	
VESSEL No: AC-190	DWN BY: MCS	CKD BY:
VESSEL ID: Condensate Cooler	MECHANICAL INTEGRITY INSPECTION	