

PRESSURE VESSEL INSPECTION REPORT

Rev. 4
Date: October 24, 2008
Page | 1

OUT OF SERVICE

Company: Enerplus		Date: MAY 19/10	
Facility: Miry Bay		LSD: 16-24-21-19W3M	
Company Vessel Identification #: Enerplus 49331			
VESSEL DATA			
Description: Horizontal Inlet Separator North		Manufacturer: Platinum	
Mfg. Date: 2005		NB: A 539069	
Serial #: 15148-01		CRN#: R 4923.213	
Diameter: 4'		Length: 10'	
Unit #:		Insp. Method: External <input checked="" type="checkbox"/> Internal <input checked="" type="checkbox"/>	
MAWP Shell: 720 <input type="checkbox"/> kpa <input checked="" type="checkbox"/> psi	@ Temp 130 <input type="checkbox"/> C <input checked="" type="checkbox"/> F	MDMT	C <input type="checkbox"/> F <input type="checkbox"/> @ KPA <input type="checkbox"/> PSI <input type="checkbox"/>
MAWP Tube: <input type="checkbox"/> kpa <input type="checkbox"/> psi	@ Temp <input type="checkbox"/> C <input type="checkbox"/> F		
PSV INFORMATION <input type="checkbox"/> N/A 2ND PSV			
Manufacturer: Taylor	Location: <input checked="" type="checkbox"/> T <input type="checkbox"/> S <input type="checkbox"/> P	Manufacturer:	Location: <input type="checkbox"/> T <input type="checkbox"/> S <input type="checkbox"/> P
Serial #: 24264-58	CRN #: OG1316.2C	Serial #:	CRN #:
Model #: T-8200-2	PSV #: TR 9574	Model #:	PSV #:
Set Pressure: 720 psi	Capacity: 5486 SCFM	Set Pressure:	Capacity:
Inlet Size: 2"	Outlet Size: 2"	Inlet Size:	Outlet Size:
Last Service: 09/15/2009	Service Interval: 3 years	Last Service:	Service Interval:
Company Ident.#: E 49335		Company Ident.#:	
VESSEL MATERIAL AND THICKNESS			
Head Thickness:	Material:	C.A.:	
Head Thickness:	Material:	R.T.:	
Shell Thickness:	Material:	HT:	
Is Vessel Gounded	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> See Comments	<input type="checkbox"/> N/A
Is Vessel Secured/Bolted Down	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> See Comments	<input type="checkbox"/> N/A
Nameplate Secure	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		<input type="checkbox"/> See Attached Pictures
Nameplate Legible	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Ladders/Handrail/Walkway Damage	<input type="checkbox"/> Y <input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A	
Vessel Fit for Service	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Vessel Requires Repair	<input type="checkbox"/> Y <input type="checkbox"/> N		
Future Action Required	<input type="checkbox"/> Y <input type="checkbox"/> N		
INSPECTION REQUESTED BY: <u>G Zinger</u>		INSPECTION PERFORMED BY: <u>Cory Sasyniuk</u>	

* Cory Sasyniuk PEI Class No. 49 WEx No. 12 NBIC No. 12642 API 510 No. 28371 API 570 No. 32058
 ** Neil Pinkney PEI Class No. 47 WEx No. 13 NBIC No. 12641 API 510 No. 38370 API 570 No. 31457

EXTERNAL VISUAL INSPECTION

ACCESS & COVERAGE		SUPPORTS					
Manway/Access Size: <u>20"</u>		Vessel Has <input type="checkbox"/> Skirt <input checked="" type="checkbox"/> Legs <input type="checkbox"/> N/A					
Coating: <input type="checkbox"/> Disbonded <input type="checkbox"/> Blistered		Insulation <input type="checkbox"/> Good <input type="checkbox"/> Poor					
<input type="checkbox"/> N/A <input type="checkbox"/> Poor Cleaning <input checked="" type="checkbox"/> Adequately Clean <input type="checkbox"/> Peeling		<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Cracked <input type="checkbox"/> Bolts Missing/Loose/Damaged <input type="checkbox"/> Support Ring Damage <input type="checkbox"/> Skirt Access		<input type="checkbox"/> Distorted <input type="checkbox"/> Broken			
SHELL		NOZZLES					
<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> External Corrosion <input type="checkbox"/> Pitted - Light <input type="checkbox"/> Pitted - Severe		<input type="checkbox"/> Insulated <input type="checkbox"/> Scaled - Light <input type="checkbox"/> Scaled - Severe <input type="checkbox"/> Blistered <input type="checkbox"/> See Comments		<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Scaled <input type="checkbox"/> Poor Welding <input type="checkbox"/> Seal Face Corrosion <input type="checkbox"/> Internal Corrosion		<input type="checkbox"/> Cracked <input type="checkbox"/> Plugged <input type="checkbox"/> Leaking <input type="checkbox"/> Bolts Missing/Loose/Damaged	
HEAD		HEAD					
<input type="checkbox"/> Top <input type="checkbox"/> North <input checked="" type="checkbox"/> West <input type="checkbox"/> N/A		<input type="checkbox"/> Bottom <input type="checkbox"/> South <input checked="" type="checkbox"/> East <input type="checkbox"/> N/A					
<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Pitted - Light <input type="checkbox"/> Scaled - Light <input type="checkbox"/> External coating		<input type="checkbox"/> External Corrosion <input type="checkbox"/> Pitted - Severe <input type="checkbox"/> Scaled - Heavy		<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Pitted - Light <input type="checkbox"/> Scaled - Light <input type="checkbox"/> External Coating		<input type="checkbox"/> External Corrosion <input type="checkbox"/> Pitted - Severe <input type="checkbox"/> Scaled - Heavy	
EXTERNAL PIPING							
External Piping		<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Leaks	<input type="checkbox"/> Corrosion	<input type="checkbox"/> See Comments	
Cladding/Insulation		<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Good Condition	<input type="checkbox"/> Dents/Holes	<input type="checkbox"/> See Comments		
Supports		<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Missing/Stress	<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments	
Coating		<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Chipped/Missing	<input type="checkbox"/> Corrosion		

PRESSURE VESSEL INSPECTION REPORT

Rev. 4
Date: October 24, 2008
Page | 3

INTERNAL VISUAL INSPECTION

INTERNAL PROTECTION		ANODES	
<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good Condition <input type="checkbox"/> Blistered - Light <input type="checkbox"/> Disbonded <input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Coating <input type="checkbox"/> Holidays <input type="checkbox"/> Blistered - Severe <input type="checkbox"/> Chipped/Peeling <input type="checkbox"/> Mechanically Remove or Sandblasted	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Dirty <input type="checkbox"/> New/Replaced <input type="checkbox"/> Bonding Cable Attached	<input type="checkbox"/> Good Condition <input type="checkbox"/> Consumed _____% <input type="checkbox"/> Missing
DEMISTER SCREEN		MANWAY	
<input type="checkbox"/> N/A <input type="checkbox"/> Dislodged <input checked="" type="checkbox"/> Missing	<input type="checkbox"/> Good Condition <input type="checkbox"/> Broken <input type="checkbox"/> Fowled _____%	<input type="checkbox"/> N/A <input type="checkbox"/> Coating Damage <input type="checkbox"/> Mechanical Damage <input type="checkbox"/> Bolts Missing/Loose	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Internal Corrosion <input type="checkbox"/> Seal Face Corrosion <input checked="" type="checkbox"/> Correct Bolting/Size/Type
FIRETUBES		TRAYS	
<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good Condition <input type="checkbox"/> Cracked <input type="checkbox"/> Corrosion	<input type="checkbox"/> Scaled <input type="checkbox"/> Heat Impinged <input type="checkbox"/> Coated <input type="checkbox"/> Wear	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Collapsed <input type="checkbox"/> Loose <input type="checkbox"/> Wear <input type="checkbox"/> Poor	<input type="checkbox"/> Good <input type="checkbox"/> Distorted <input type="checkbox"/> Missing <input type="checkbox"/> Corrosion
<input type="checkbox"/> Burner Misalignment <input type="checkbox"/> MPI/UT <input type="checkbox"/> To Follow			
SHELL		VESSEL INTERNALS	
<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Pitted - Light <input type="checkbox"/> Scaled - Light	<input type="checkbox"/> Internal Corrosion <input type="checkbox"/> Pitted - Severe <input type="checkbox"/> Scaled - Heavy	<input type="checkbox"/> N/A <input type="checkbox"/> Weir/Baffle/Divider Damage <input type="checkbox"/> Downcomer Corrosion <input type="checkbox"/> Spray Nozzle Damaged/Missing <input checked="" type="checkbox"/> See Comments	
<input type="checkbox"/> Blistered <input type="checkbox"/> MPI/UT <input type="checkbox"/> To Follow			
HEAD		HEAD	
<input type="checkbox"/> Top <input type="checkbox"/> North <input checked="" type="checkbox"/> West <input type="checkbox"/> N/A		<input type="checkbox"/> Bottom <input type="checkbox"/> South <input checked="" type="checkbox"/> East <input type="checkbox"/> N/A	
<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Pitted - Light <input type="checkbox"/> Scaled - Light <input type="checkbox"/> Internal Coating	<input type="checkbox"/> Internal Corrosion <input type="checkbox"/> Pitted - Severe <input type="checkbox"/> Scaled - Heavy	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Pitted - Light <input type="checkbox"/> Scaled - Light <input type="checkbox"/> Internal Coating	<input type="checkbox"/> Internal Corrosion <input type="checkbox"/> Pitted - Severe <input type="checkbox"/> Scaled - Heavy
INTERNAL PIPING			
Internal Piping: <input type="checkbox"/> N/A <input type="checkbox"/> Good Condition <input type="checkbox"/> Corrosion <input type="checkbox"/> Missing/Dents <input type="checkbox"/> Supports <input checked="" type="checkbox"/> See Comments			

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INTERNAL VISUAL INSPECTION

DETAILED OBSERVATIONS (Inspection Notes)

Manway entry into vessel is in good condition with no indications of corrosion or pitting visible throughout. Head dish, knuckle and straight flange are in as new condition with indications of mil scale visible throughout base metal surface. No further indications of deterioration visible throughout. Head to shell transitional circ weld is even and uniform with adequate weld reinforcement visible internally.

1st Course - 1st course is in good condition with no indications of pitting or corrosion present. Indications of scaling are visible on shell surfaces in the lower hemisphere of vessel. Inlet nozzle installed in vessel appears to be in good condition with no concerns or issues present. Perforated 1/2 baffle installed in 1st course is bolted in and can be removed for inspection purposes. 3" drain installed in course section is in good condition and there is no indications of deterioration present. Long seam in course shell section is in as new condition as well with adequate weld reinforcement visible throughout. PSV nozzle is in as new condition with adequate weld reinforcement present. No indications of undercut or cold lap are present throughout 1st course of shell. Course 1 to course 2 transitional circ weld is even and uniform. Fit-up between courses are within tolerance of Code. No indications of weld metal deterioration present at this time.

2nd Course - Sample collars installed in south exposure of vessel are in as new condition with adequate weld reinforcement visible internally. Nozzles are adequately clean with no evidence of fowling present at this time. 3" drain installed in course section is in as new condition with no evidence of fowling or pitting visible at this time. Long seam in course section has indications of weld reinforcement that is currently at wall thickness. No concerns or issues present at this time with weld detail. Gas demister is currently removed from vessel for service. Discharge nozzle appears to be in good condition with no indications of internal corrosion present. Head to shell transitional circ weld is in as new condition with no evidence of deterioration visible. Dish, knuckle and straight flange of east head is in good condition with evidence of mil scale visible on internal surfaces. No further degradation is present in the form of corrosion or pitting.

RECOMMENDATIONS

Recommend vessel be returned to service and possible replacement of demister pad is required for service.

EXTERNAL VISUAL INSPECTION

DETAILED OBSERVATIONS (Inspection Notes)

Vessel is adequately supported on steel skid structure with no indications of listing or leaning and has been secured by bolting. Exterior of vessel is protected with paint, though indications of deterioration from prior are present that have been mitigated with further application of coating. Primary piping for vessel is welded construction, while secondary piping is threaded. All piping joint connections appear tight with no indications of leakage visible at this time. Piping is adequately supported throughout steel skid structure with no concerns or issues present at this time. No evidence of short bolting visible throughout jointed connections. Piping adequately protected with paint with no signs of degradation at this time.

PRESSURE VESSEL INSPECTION REPORT

Rev. 4

Date: October 24, 2008

Page | 5

RECOMMENDATIONS

PICTURES