



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **155741-MD-29**
 Inspect Date: 02/17/2012
 Page: 1 of 11
 Insp. Co. Job #: 155741

Criticality Designation:



Yellow

Insp. Comp: Matrix_Inspection District: Grande Prairie - North Field: South Hamburg
 Location: 12-29-096-11W6 Unit / Skid #: 7714 LSD: 12-29-096-11W6
 Jurisdiction #: A3090903 Equip Tag #: V-2201 Serial #: 95 016 D
 CRN #: M8242.2 Nat'l Bd #: N/A Year Built: 1995
 Manufacturer: DON BUCK FABRICATION CORP Equipment Description: Other: PROPANE ACCUMULATOR
 Status: In Service - Equip. Type: Vessel: Accumulator Service: Sweet
 MAWP Shell: 1874 kPa @ 300 °C Volume: _____ Code Stamp: Y N
 MAWP Tube: _____ @ _____ Height/Length: 12 Ft. Insulated: Y N
 MDMT: -28 °C RT: RT-2 Size/Diameter.: 48 in. O.D. PWHT: Y N
 Support: Saddle Vessel on Original CNRL Inventory List: Y N Manway: Y N
 C.A.: 0.063 in. Coated: No Clad: No J.E.: 0.90 Remote Access: - _____

Component	Material	Nominal Thk	Diameter	OD/ID	Tube Side	Shell Side
1 Main - Shell	SA-516-70	0.500 in.	48.000 in.	OD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2 West - Head	SA-516-70	0.480 in.	48.000 in.	OD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3 East - Head	SA-516-70	0.480 in.	48.000 in.	OD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4 -					<input type="checkbox"/>	<input type="checkbox"/>
5 -					<input type="checkbox"/>	<input type="checkbox"/>

Static Data: Confirmed Changed (See Comments)

Comments:

Static data updated

PSV Static Data

PSV -1 Tag #: 78 Serial #: VA0090043 01 CRN: 02176.52
 Model #: JBS 15J Capacity: 4407 SCFM Set Pressure: 271.8 psi
 Manufacturer: Crosby Service Company: Tyco
 Inlet Size & Type: 3.00 in. - Flanged Last Service Date: 06/12/2007
 Outlet Size & Type: 6.00 in. - Flanged Block Valve: Upstream - Carsealed - Open
 Carseal Intact: Yes Code Stamp: Yes
 Shell Side / Tube Side: Shell Side Out for Service During Insp.: N Location of PSV: On Vessel

PSV -2 Tag #: 179 Serial #: VA 0090390 01 CRN: 0G201.2
 Model #: 951111MA Capacity: 434 SCFM Set Pressure: 284 psi
 Manufacturer: Crosby Service Company: Tyco
 Inlet Size & Type: 0.75 in. - Threaded Last Service Date: 06/14/07
 Outlet Size & Type: 1.00 in. - Threaded Block Valve: Upstream - Carsealed - Open
 Carseal Intact: Yes Code Stamp: Yes
 Shell Side / Tube Side: Shell Side Out for Service During Insp.: N Location of PSV: Upstream

PSV Comments

PSV is due for service
 The inlet flange to the PSV is taped
 PSV# 2 is on its side



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **155741-MD-29**
 Inspect Date: 02/17/2012
 Page: 2 of 11
 Insp. Co. Job #: 155741

Insp. Company: Matrix_Inspection LSD: 12-29-096-11W6 Jurisdiction #: A3090903

External Inspection Results – VE External Inspection Performed

Item	N/A	Condition	Comment (Check Status Bar or Press F1 for Help)	NCR	Action Item Integrity	Action Item Maintenance
Nameplate	<input type="checkbox"/>	Accept	Firmly affixed and legible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foundation and Supports	<input type="checkbox"/>	Accept	Large skid on pilings outside Unit# 7714	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anchor Bolts	<input type="checkbox"/>	Accept	Secure & tight with minor corrosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grounding	<input type="checkbox"/>	Accept	Grounded directly to accumulator saddle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation Condition	<input checked="" type="checkbox"/>		No insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSV	<input type="checkbox"/>	Reject	Due for service	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Shell Heads & Nozzles	<input type="checkbox"/>	Accept	No recordable mechanical damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal Surfaces (Paint)	<input type="checkbox"/>	Accept	Staining and minor surface corrosion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aux Equipment	<input checked="" type="checkbox"/>		No auxiliary equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cathodic Protection	<input checked="" type="checkbox"/>		No external anode	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alignment	<input type="checkbox"/>	Accept	Acceptable condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flange Connections	<input type="checkbox"/>	Accept	Minor corrosion noted between the flanges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure Gauge	<input type="checkbox"/>	Accept	0-2100 kPa / 0-300 psi: acceptable range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Gauge	<input checked="" type="checkbox"/>		No temperature gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sight Glass	<input type="checkbox"/>	Accept	clear and intact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ladder / Platform	<input checked="" type="checkbox"/>		No ladder or platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leaks	<input type="checkbox"/>	No	No evidence of leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Piping from Vessel	<input type="checkbox"/>	Accept	Adequately supported from flange to flange			
Previous UT Survey	<input type="checkbox"/>	No	Not previously marked & no history	UT Company: N/A		

External Visual Observations

The accumulator has minor stains noted throughout with minor chipped coating exposing the base metal to minor surface corrosion with no pitting noted at the time of inspection.

There is minor surface corrosion build-up noted between the flanged connections.

The PSV is due for service. The inlet flange to the PSV is taped which may accelerate corrosion between the flanges due to entrapped moisture.

PSV #2 is on its side.

A UT corrosion survey was performed with no significant metal loss recorded at the time of inspection.

Recommendations:

- Service the PSVs and ensure PSV #2 is installed in an upright position
 - Remove the tape from the flanges
 - Clean and touch-up the coating to aid in the protection against corrosion
- TA Recommendation:
 Open the manway and clean the accumulator for internal inspections.



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **155741-MD-29**
 Inspect Date: 02/17/2012
 Page: 3 of 11
 Insp. Co. Job #: 155741

Insp. Company: Matrix_Inspection LSD: 12-29-096-11W6 Jurisdiction #: A3090903

Internal Inspection Results – VI N/A (Not Applicable)

Item	N/A	Condition	Comment (Check Status Bar or Press F1 for Help)	NCR	Action Item Integrity	Action Item Maintenance
Shell	<input type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heads	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manway	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gasket Surfaces	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Welds	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refractory	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heating Coils	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demister Pad	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vane Pack	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baffles	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trays	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Coating	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tubesheet	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tube Bundle	<input checked="" type="checkbox"/>		No Internal Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Internal Visual Observations

No Internal Inspection Carried Out

Recommendations:

No Internal Inspection Carried Out



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **155741-MD-29**
 Inspect Date: 02/17/2012
 Page: 4 of 11
 Insp. Co. Job #: 155741

Insp. Company: Matrix_Inspection LSD: 12-29-096-11W6 Jurisdiction #: A3090903

Firetube Static Data N/A (Not Applicable)

Diameter: Not Applicable Nom Thickness: Not Applicable Bend: Not Applicable
 Length: Not Applicable Firetube Description: Not Applicable
 Firetube NDE Performed: UT Report#: Not Applicable ET Report#: Not Applicable
 MT Report#: Not Applicable RT Report#: Not Applicable
 PT Report#: Not Applicable Other Report#: Not Applicable

Firetube Inspection Results

Item	N/A	Condition	Comment (Check Status Bar or Press F1 for Help)	NCR	Action Item Integrity	Action Item Maintenance
Burner	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stack	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flange (Throat)	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tube Sheet	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hot Side	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miter	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Return Bend	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supports	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Butt Welds	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fillet Welds	<input checked="" type="checkbox"/>		No Firetube Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Firetube Visual Observations

No Firetube Inspection Carried Out

Recommendations:

No Firetube Inspection Carried Out



PRESSURE VESSEL
VISUAL INSPECTION
REPORT

Report #: 155741-MD-29
Inspect Date: 02/17/2012
Page: 5 of 11
Insp. Co. Job #: 155741

Insp. Company: Matrix_Inspection LSD: 12-29-096-11W6 Jurisdiction #: A3090903

Vessel NDE and Final Summary:

UT Report#: _____ ET Report#: _____
NDE Performed: MT Report#: _____ RT Report#: _____
PT Report#: _____ Other Report#: _____

Maxi-Trak Observations Summary (Summarize inspection results Max 255 Characters):

PSV #2 is on its side both PSVs are due for service
Tape on flanges
Weathered and chipped coating exposing base metal to minor surface corrosion

Maxi-Trak Recommendations Summary (Summarize Recommendations Max 255 Characters):

Service the PSVs and ensure PSV #2 is installed in an upright position
Remove the tape from the flanges
Clean and touch-up the coating to aid in the protection against corrosion

Actions Corrected at Time of Inspection: (If actions were corrected at the time of Inspection – note the corrected actions here.)

No actions were corrected at the time of inspection

Additional Visual Observations

2nd PSV is on its side and should be in an upright position

Any other safety concerns or observations from associated equipment: (for example associated piping, buildings, pumps etc...)

No additional safety concerns noted at the time of inspection



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **155741-MD-29**
 Inspect Date: 02/17/2012
 Page: 6 of 11
 Insp. Co. Job #: 155741

Insp. Company: Matrix_Inspection LSD: 12-29-096-11W6 Jurisdiction #: A3090903

Thickness and Remaining Life Evaluation “ Must be Completed”

MUST BE COMPLETED AND RESOLVED WITH CNRL IMMEDIATELY UPON DISCOVERY OF LOW WALL THICKNESS AREAS

Step 1: Was any thickness measurement location found to be less than (Nominal WT – Corrosion Allowance)?: **No**

If YES, proceed to Step 2; if NO, proceed to “Crack Evaluation” and “CNRL Criticality Designation”.

Step 2: Which component(s) were found below (Nominal WT – Corrosion Allowance)?

Components found below Nom - CA:

Components
N/A - N/A
N/A - N/A
N/A - N/A
N/A - N/A
N/A - N/A

Perform Steps 3 – 8 for each component with actual thickness less than (Nominal WT – Corrosion Allowance).

Step 3: Describe Location and Extent of Corrosion:

Components	Location and Extent of Corrosion
N/A - N/A	Not Applicable for this Inspection
N/A - N/A	Not Applicable for this Inspection
N/A - N/A	Not Applicable for this Inspection
N/A - N/A	Not Applicable for this Inspection
N/A - N/A	Not Applicable for this Inspection

Notes:
 Not Applicable for this Inspection

Step 4:

- For shells and nozzles, calculate minimum required thickness (T-min) as per ASME Section VIII UG-27.
- For heads, calculate minimum required thickness (T-min) as per ASME Section VIII UG-32.

Components	T-Min
N/A - N/A	N/A
N/A - N/A	N/A
N/A - N/A	N/A
N/A - N/A	N/A
N/A - N/A	N/A



PRESSURE VESSEL
VISUAL INSPECTION
REPORT

Report #: **155741-MD-29**
Inspect Date: 02/17/2012
Page: 7 of 11
Insp. Co. Job #: 155741

Insp. Company: Matrix_Inspection LSD: 12-29-096-11W6 Jurisdiction #: A3090903

Thickness and Remaining Life Evaluation (Continued)

Step 5: Is any measured thickness less than calculated minimum required thickness (T-min)? **N/A**

*If YES, complete Step 6
If NO, proceed to Step 7..*

Step 6: Is nature and extent of pitting acceptable as per API 510? **N/A**

Step 7: Calculate Remaining Life as per API 510. How? (Find last reading; use nominal thickness if nothing available). Short Term Corrosion Rates and Long Term Corrosion Rates.

Components	Remaining Life (Yrs)
N/A - N/A	N/A
N/A - N/A	N/A
N/A - N/A	N/A
N/A - N/A	N/A
N/A - N/A	N/A

Step 8: Contact CNRL Integrity Coordinator to discuss above results.

- Name of CNRL contact: Not Applicable for this Inspection
- Date and time of conversation: Not Applicable for this Inspection

Summary/results of conversation:
Not Applicable for this Inspection

Crack Evaluation by Magnetic Particle or Alternative Inspection “Must be Completed”

MUST BE COMPLETED AND RESOLVED WITH CNRL IMMEDIATELY UPON DISCOVERY OF CRACK-LIKE INDICATIONS

Were any indications found to suggest the vessel contained cracks? **N/A**

If NO, proceed to “CNRL Criticality Designation”.

If YES, Contact CNRL Integrity Coordinator to discuss results.

- Name of CNRL contact: Not Applicable for this Inspection
- Date and time of conversation: Not Applicable for this Inspection

Summary/results of conversation:
Not Applicable for this Inspection



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **155741-MD-29**
 Inspect Date: 02/17/2012
 Page: 8 of 11
 Insp. Co. Job #: 155741

Insp. Company: Matrix_Inspection LSD: 12-29-096-11W6 Jurisdiction #: A3090903

CNRL Criticality Evaluation – “MUST BE COMPLETED”

The CNRL In-Service Pressure Vessel Inspector MUST answer all the following questions

1. Is the vessel fit-for-service? : **Yes**
2. Was the measured thickness less than the calculated minimum required thickness (T-min) for any component?: **No**
3. Were MT indications found?: **N/A**
4. Was the remaining life less than 6 years for sour service vessels or less than 10 years for sweet service vessels?: **No**
5. Were NCR's or Action Items generated as a result of the inspection? : **Yes**
6. Were UT readings below (Nominal WT – Corrosion Allowance) found? : **No**

Information on CNRL Owner User Program - Criticality Designation and Required Review

RED – Vessel Inspection Results are deemed RED if one of the following occurred:

- The measured thickness was less than the calculated minimum required thickness (T-min) for any component.
- MT indications were found.
- The remaining life was calculated to be less than 6 years for sour-service vessels or less than 10 years for sweet-service vessels.

RED inspection reports must be signed off by the CNRL Chief Inspector.

YELLOW – Vessel Inspection Results are deemed YELLOW if one or more of the following occurred:

- The vessel was declared NOT fit-for-service by the 3rd Party In-Service PV Inspector.
- NCR's or Action Items were generated as a result of the inspection.
- UT readings below (Nominal WT – Corrosion Allowance) were found.

YELLOW inspection reports must be signed off by the CNRL Pressure Equipment Integrity Coordinator.

GREEN – Vessel Inspection Results are deemed GREEN if all of the following are true:

- The vessel was declared fit-for-service by the 3rd Party In-Service PV Inspector.
- UT readings below (Nominal WT – Corrosion Allowance) were NOT found.
- MT indications were NOT found.
- NCR's or Action Items were NOT generated as a result of the VE inspection.

GREEN inspection reports must be signed off by the 3rd Party In-Service Pressure Vessel Inspector.

Criticality Designation



Yellow

Vehicle #: 501 Kms: _____
 Time In: 00:00 Time Out: 00:00 Hrs _____
 Time In: 00:00 Time Out: 00:00 Hrs _____
 Personnel: BI, LP
 Billing Info: AFE :

Inspector (Name): Matthew B Dickinson PESL: 601
 Inspector (Signature): _____ API: 39483
 CNRL Coordinator (Name): _____
 CNRL Coordinator (Signature): _____
 CNRL Chief Inspector (Signature): _____
 (I am in full agreement with report contents) _____
 (I am in full agreement with report contents) _____

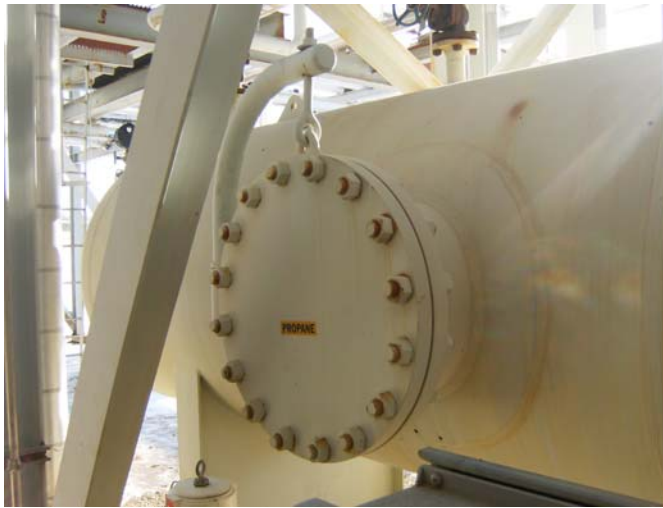
Equipment Photographs:



01 nameplate



02 overview



03 manway



04 minor surface corrosion



05 accumulator PSV



06 PSV on its side