



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **123938-DB-22**
 Inspect Date: 09/16/2010
 Page: 1 of 9
 Insp. Co. Job #: 123938

Criticality Designation:



Yellow

Insp. Comp: Matrix Inspection District: St Albert Field: Joffre
 Location: 14-36-038-27W4 Unit / Skid #: N/A LSD: 14-36-038-27W4
 Jurisdiction #: A0134927 Equip Tag #: N/A Serial #: LM1367
 CRN #: C7654.2 Nat'l Bd #: N/A Year Built: 1977
 Manufacturer: CE NATCO Equipment Description: Other: LP STORAGE TANK
 Status: In Service - Equip. Type: Vessel: Bullet Service: Sweet
 MAWP Shell: 150 Psi @ 120 °F Volume: _____ Code Stamp: Y N
 MAWP Tube: _____ Psi @ _____ °F Height/Length: 480.00 in. Insulated: Y N
 MDMT: N/A RT: N/A Size/Diameter.: 144.0 in. PWHT: Y N
 Support Legs Vessel on Original CNRL Inventory List: Y N Manway: Y N
 C.A.: N/A in. Coated: N/A Clad: N/A J.E.: N/A Remote Access: - _____

Component	Material	Nominal Thk	Diameter	OD/ID	Tube Side	Shell Side
1 Main - Shell	N/A		144.000 in.	OD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2 North - Head	N/A		144.000 in.	OD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3 South - Head	N/A		144.000 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:

No nameplate noted on vessel.
 Vessel is inside berm, which is full of water. No UT available.

PSV Static Data

PSV -1 Tag #: PSV134927 Serial #: 7198 CRN: Not stated.
 Model #: A8554M180 Capacity: 11200 SCFM Set Pressure: 150 psi
 Manufacturer: Rego Manifold Service Company: Powercomm
 Inlet Size & Type: 4.00 in. - Flanged Last Service Date: 9/7/2000
 Outlet Size & Type: _____ Block Valve: N/A - -
 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 #: _____ Serial #: _____ CRN: _____
 Model #: _____ Capacity: _____ Set Pressure: _____
 Manufacturer: _____ Service Company: _____
 Inlet Size & Type: _____ Last Service Date: _____
 Outlet Size & Type: _____ Block Valve: _____
 Carseal Intact: _____ Code Stamp: _____
 Shell Side / Tube Side: _____ Out for Service During Insp.: _____ Location of PSV: _____

PSV Comments

PSV is overdue for service.



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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 checked="" type="checkbox"/>		No nameplate noted on vessel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foundation and Supports	<input type="checkbox"/>	Accept	Foundation and supports in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anchor Bolts	<input type="checkbox"/>	Accept	Anchor bolting in place and tight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grounding	<input type="checkbox"/>	Accept	Ground firmly attached and clean.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation Condition	<input checked="" type="checkbox"/>		Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSV	<input type="checkbox"/>	Reject	PSV is overdue for service.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Shell Heads & Nozzles	<input type="checkbox"/>	Accept	Shell, heads, and nozzles in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal Surfaces (Paint)	<input type="checkbox"/>	Accept	Metal surfaces and paint in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aux Equipment	<input checked="" type="checkbox"/>		Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cathodic Protection	<input checked="" type="checkbox"/>		Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alignment	<input type="checkbox"/>	Accept	Vessel alignment is good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flange Connections	<input type="checkbox"/>	Accept	Flange connections proper, & in good cond.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure Gauge	<input type="checkbox"/>	Accept	Pressure gauge appears functional.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Gauge	<input type="checkbox"/>	Accept	Temperature gauge appears functional.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sight Glass	<input type="checkbox"/>	Accept	Sight glass is clean and in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ladder / Platform	<input type="checkbox"/>	Accept	Ladder and platform in good condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leaks	<input type="checkbox"/>	No	No process leaks noted at time of inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Piping from Vessel	<input type="checkbox"/>	Accept	Piping from vessel is adequately supported, and in good condition.			
Previous UT Survey	<input type="checkbox"/>	No	No evidence of previous inspection.	UT Company:		

External Visual Observations

Vessel and associated components in good external condition.
 * PSV is overdue for service.
 * No nameplate noted on vessel.
 Foundation and supports in good condition.
 Anchor bolting in place and tight.
 Ground firmly attached and clean.
 Shell, heads, and nozzles in good condition.
 Metal surfaces and paint in good condition.
 Vessel alignment is good.
 Flange connections proper, & in good cond.
 Pressure gauge appears functional.
 Temperature gauge appears functional.
 Sight glass is clean and in good condition.
 Ladder and platform in good condition.
 No process leaks noted at time of inspection.
 Piping from vessel is adequately supported, and in good condition.

Recommendations:

Service the PSV, and attach a tag.



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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 checked="" 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



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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



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Vessel NDE and Final Summary:

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

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

Vessel and associated components in good external condition.

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

Service the PSV, and attach a tag. Continue to inspect at regular intervals. No UT available as berm full of water.

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

Not applicable.

Additional Visual Observations

Not applicable.

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

Not applicable.



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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



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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



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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



Vehicle #: 321 Kms: _____
 Time In: 00:00 Time Out: 00:00 Hrs _____
 Time In: 00:00 Time Out: 00:00 Hrs _____
 Personnel: Mike Schmidt
 Billing Info: _____

Inspector (Name): Dennis Bowlby PESL: _____
 Inspector (Signature):  API: 34104
Dennis Bowlby
CN = Dennis Bowlby, C =
CA, O = Matrix
2010.11.08 14:35:43 -0700
 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:



Figure_001_Overview



Figure_002_Supports



Figure_003_Liquid level



Figure_004_Ladder