



PRESSURE VESSEL  
VISUAL INSPECTION  
REPORT

Report #: **156697-MD-75**  
Inspect Date: 03/01/2012  
Page: 1 of 8  
Insp. Co. Job #: 156697

Criticality Designation:



Yellow



Insp. Comp: Matrix Inspection District: Grande Prairie - North Field: 12-29-096-11w6  
Location: Hamburg Unit / Skid #: \_\_\_\_\_ LSD: 12-29-096-11W6  
Jurisdiction #: A0218888 Equip Tag #: V-403 Serial #: 85-9413-A-3  
CRN #: F4788.2 Nat'l Bd #: \_\_\_\_\_ Year Built: 1985  
Manufacturer: MALONEY STEEL LTD Equipment Description: Other: GAS DEHYDRATOR  
Status: Out of Service - 999 - Equip. Type: Vessel: Contactor Service: Sweet  
MAWP Shell: 1400 Psi @ Volume: \_\_\_\_\_ Code Stamp:  Y  N  
MAWP Tube: \_\_\_\_\_ @ \_\_\_\_\_ Height/Length: \_\_\_\_\_ Insulated:  Y  N  
MDMT: \_\_\_\_\_ RT: \_\_\_\_\_ Size/Diameter.: \_\_\_\_\_ PWHT:  Y  N  
Support: \_\_\_\_\_ Vessel on Original CNRL Inventory List:  Y  N Manway:  Y  N  
C.A.: \_\_\_\_\_ Coated: \_\_\_\_\_ Clad: \_\_\_\_\_ J.E.: \_\_\_\_\_ Remote Access:  - \_\_\_\_\_

Component	Material	Nominal Thk	Diameter	OD/ID	Tube Side	Shell Side
1 Main - Shell					<input type="checkbox"/>	<input type="checkbox"/>
2 - Head					<input type="checkbox"/>	<input type="checkbox"/>
3 - Head					<input type="checkbox"/>	<input type="checkbox"/>
4 -					<input type="checkbox"/>	<input type="checkbox"/>
5 -					<input type="checkbox"/>	<input type="checkbox"/>

Static Data: Confirmed  Changed (See Comments)

Comments:

This vessel is not in service at this time  
No inspections were carried out.

PSV Static Data

PSV -1 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 -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

This vessel is not in service at this time  
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External Inspection Results – VE N/A (Not Applicable)

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 External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foundation and Supports	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anchor Bolts	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grounding	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation Condition	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSV	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shell Heads & Nozzles	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal Surfaces (Paint)	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aux Equipment	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cathodic Protection	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alignment	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flange Connections	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure Gauge	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Gauge	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sight Glass	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ladder / Platform	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leaks	<input checked="" type="checkbox"/>		No External Inspection Carried Out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Piping from Vessel	<input checked="" type="checkbox"/>		No External Inspection Carried Out			
Previous UT Survey	<input checked="" type="checkbox"/>		No External Inspection Carried Out			UT Company:

External Visual Observations

No External Inspection Carried Out  
 This vessel is not in service at this time  
 No inspections were carried out.

Recommendations:

No External Inspection Carried Out  
 This vessel is not in service at this time  
 No inspections were carried out.



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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):**

This vessel is not in service at this time  
No inspections were carried out.

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

This vessel is not in service at this time  
No inspections were carried out.

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

This vessel is not in service at this time  
No inspections were carried out.

**Additional Visual Observations**

This vessel is not in service at this time  
No inspections were carried out.

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

This vessel is not in service at this time  
No inspections were carried out.



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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? : No
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? : No
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 #: 380 Kms:
Time In: 00:00 Time Out: 00:00 Hrs
Time In: 00:00 Time Out: 00:00 Hrs
Personnel: JD, LP
Billing Info: AFE :

Inspector (Name): Matthew B Dickinson PESL: 601
Inspector (Signature): [Signature] Matthew Dickinson 2012.03.23 15:26:55 -06'00' API: 39483
CNRL Coordinator (Name):
CNRL Coordinator (Signature):
CNRL Chief Inspector (Signature): (I am in full agreement with report contents)