



**PRESSURE VESSEL
VISUAL INSPECTION
REPORT**

Report #: **92242-CS-66**
 Inspect Date: 06/23/2010
 Page: 1 of 13
 Insp. Co. Job #: 92242

Criticality Designation:



Insp. Comp: Matrix_Inspection District: Slave Lake Field: South Brintnell
 Location: 12-09-081-22W4M Unit / Skid #: _____ LSD: 12-09-081-22W4M
 Jurisdiction #: A0454725 Equip Tag #: _____ Serial #: 6176
 CRN #: P1622.2 Nat'l Bd #: _____ Year Built: 2000
 Manufacturer: RJV Gas Field Services Ltd Equipment Description: Other: Separator
 Status: In Service - Equip. Type: Vessel: Separator Service: Sweet
 MAWP Shell: 335 Psi @ 140 °F Volume: _____ Code Stamp: Y N
 MAWP Tube: _____ @ _____ Height/Length: 90 in. Insulated: Y N
 MDMT: _____ RT: RT-2 Size/Diameter.: 36 in. I.D. PWHT: Y N
 Support _____ Vessel on Original CNRL Inventory List: Y N Manway: Y N
 C.A.: .0625 in. Coated: _____ Clad: _____ J.E.: _____ Remote Access: - _____

Component	Material	Nominal Thk	Diameter	OD/ID	Tube Side	Shell Side
1 Main - Shell	SA-516-70	0.374 in.	36.000	ID	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2 - Head	SA-516-70	0.374 in.	36.000	ID	<input type="checkbox"/>	<input checked="" 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:

PSV Static Data

PSV -1 Tag #: _____ Serial #: 537874-2-A10 CRN: OG8442.5C
 Model #: 26KA12-120 1051861-1 Capacity: 12271 SCFM Set Pressure: 334 psi
 Manufacturer: Farris Service Company: Specialties Valve Inc
 Inlet Size & Type: 3.00 in. - Flanged Last Service Date: 8/1/08
 Outlet Size & Type: 4.00 in. - Flanged Block Valve: - -
 Carseal Intact: Yes Code Stamp: _____
 Shell Side / Tube Side: _____ Out for Service During Insp.: _____ 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

Empty box for PSV Comments.



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External Inspection Results – VE

Item	N/A	Condition	Comment (Check Status Bar or Press F1 for Help)	NCR	Action Item Integrity	Action Item Maintenance
Nameplate	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foundation and Supports	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anchor Bolts	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grounding	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation Condition	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSV	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shell Heads & Nozzles	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal Surfaces (Paint)	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aux Equipment	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alignment	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flange Connections	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure Gauge	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Gauge	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sight Glass	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ladder / Platform	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leaks	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Piping from Vessel	<input type="checkbox"/>					
Previous UT Survey	<input type="checkbox"/>					

UT Company:

External Visual Observations

Empty space for external visual observations.

Recommendations:

Empty space for recommendations.



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Internal Inspection Results – VI

Item	N/A	Condition	Comment (Check Status Bar or Press F1 for Help)	NCR	Action Item Integrity	Action Item Maintenance
Shell	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heads	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manway	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gasket Surfaces	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Welds	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refractory	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heating Coils	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demister Pad	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vane Pack	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Baffles	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trays	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal Coating	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tubesheet	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tube Bundle	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Internal Visual Observations

Recommendations:



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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):

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

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

Additional Visual Observations

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



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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)?:

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
-
-
-
-
-

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
-	
-	
-	
-	
-	

Notes:

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
-	
-	
-	
-	
-	



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Thickness and Remaining Life Evaluation (Continued)

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

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

Step 6: Is nature and extent of pitting acceptable as per API 510?

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)
-	
-	
-	
-	
-	

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

- Name of CNRL contact:
- Date and time of conversation:

Summary/results of conversation:

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?

If NO, proceed to “CNRL Criticality Designation”.

If YES, Contact CNRL Integrity Coordinator to discuss results.

- Name of CNRL contact:
- Date and time of conversation:

Summary/results of conversation:



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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?
2. Was the measured thickness less than the calculated minimum required thickness (T-min) for any component?
3. Were MT indications found?
4. Was the remaining life less than 6 years for sour service vessels or less than 10 years for sweet service vessels?
5. Were NCR's or Action Items generated as a result of the inspection?
6. Were UT readings below (Nominal WT - Corrosion Allowance) found?

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.

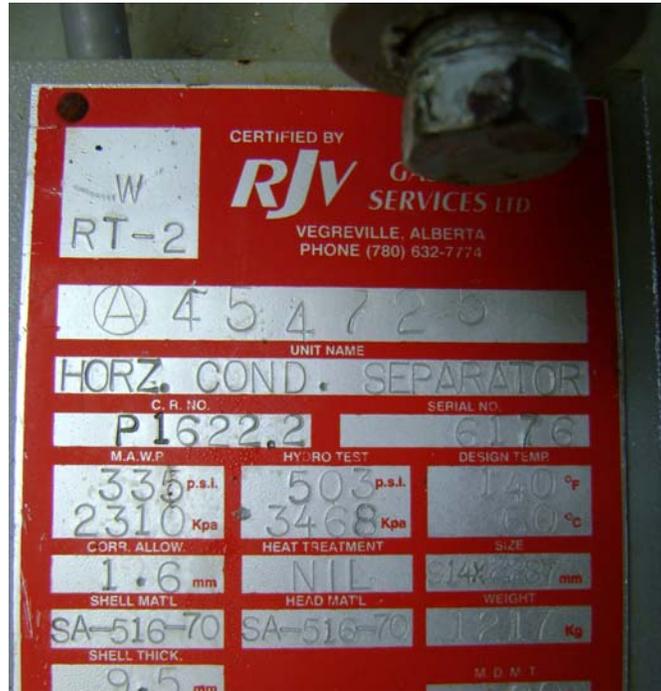
Criticality Designation



Vehicle #: Kms:
Time In: 00:00 Time Out: 00:00 Hrs
Personnel:
Billing Info:

Inspector (Name): Curtis Sinclair PESL:
Inspector (Signature): API: 35229
CNRL Coordinator (Name):
CNRL Coordinator (Signature):
CNRL Chief Inspector (Signature): (I am in full agreement with report contents)

Equipment Photographs:



001_A0454725_Nameplate



002_A0454725_Overview



003_A0454725_Overview(2)



004_A0454725_Inside view



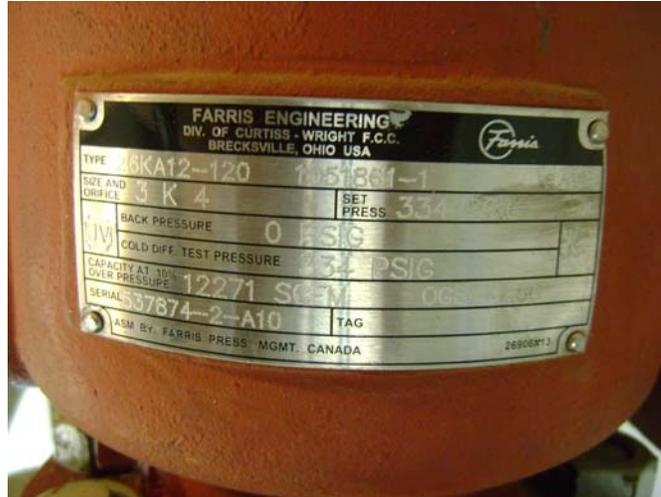
005_A0454725_Inside view (2)



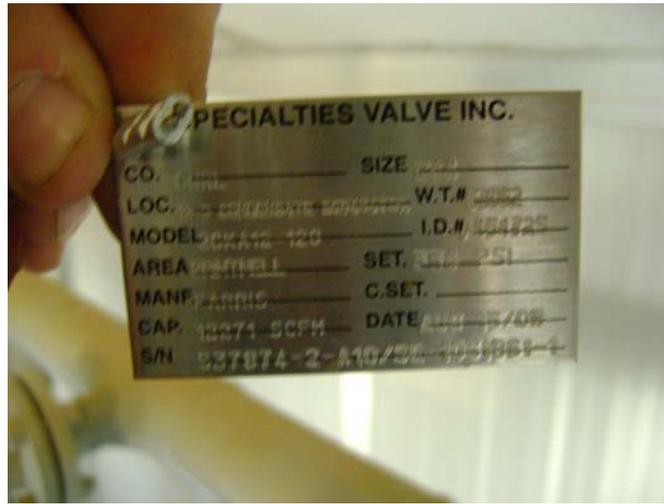
006_A0454725_Rust



007_A0454725_PSV



008_A0454725_PSV Nameplate



009_A0454725_Psv Service tag