



VESSEL INSPECTION SUMMARY

Report #: 137868-WG-13
 Inspect Date: 06/09/2009
 Page: 1 of 2
 IRISNDT #: 137868

Client: CNRL	District: Medicine Hat	Field: 07-32-012-13W4
Facility: Grand Forks	Unit: Oil Battery	LSD: 07-32-012-13W4
Jurisdiction #: A2698238	Equip Tag #:	Serial #: P90-0038-A
CRN #: K3252.2	Nat'l Bd #:	Year Built: 1991
Manufacturer: Process Industries	Equipment Description: Free Water Knock Out (FWKO)	
Status: In Service	Date Removed From Service:	Service: Sour
MAWP Shell 75 Psi @ 200 °F	Height/Length: 432 in.	Code Stamp: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
MAWP Tube Psi @ °F	Size/Diameter: 120 in. O.D.	Insulated: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Support Type: Saddle RT: 2	Volume: ft ³ / m ³	PWHT: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
C.A. 0.0625" Coated <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Clad: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Manway: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Component	Material	Nominal	Minimum
Head	SA-516-70	0.607"	0.607"
Shell	SA-516-70	0.375"	

Component	Material	Nominal	Minimum

PSV Static Data

PSV -1 Tag #: 292	Serial #: CE-35351-A11	CRN: OG2606.5C
Model #: 26QB10-120	Capacity: 18720 SCFM	Set Pressure: 75 Psi
Manufacturer: Farris		Service Company: Tarpon
Shell/Tube Side: Shell		Service Date: June 10/09
Size In: 6"	Size Out: 8"	Connection Type: Flanged
Carseal Intact: Yes	Number of PSV's	Location: t.s. Shell

PSV - 2 Tag #:	Serial #:	CRN:
Model #:	Capacity: SCFM	Set Pressure: Psi
Manufacturer:		Service Company:
Shell/Tube Shell / Tube		Service Date:
Size In:	Size Out:	Connection Type:
Carseal Intact: Yes / No	Number of PSV's	Location:

External Inspection Results - VE

Last Report #:	Last Report Date:	Summary Report #:
	Dec 12/06	

Item	Y	N	N/A	Acc	Comment
Foundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Steel skid on concrete
Grounding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	In place-connections tight
Insulation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See comments
Piping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No leaks-mainly insulated
Supports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Anchor Bolting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See comments
TMLs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Dwg. 137868-KK-12
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Item	Y	N	N/A	Acc	Comment
Paint	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Inside bldg.-good
Cathodic Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fireproofing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ladders/Platforms	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Berms	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Davit Arm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Intact-secure
Pressure Gauge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Working-no leaks-readable
Temp. Gauge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Working-no leaks-readable

Internal Inspection Results - VI

Item	Y	N	N/A	Acc	Comment
Shell	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Heads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Manway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Gasket Surfaces	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Refractory	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Heating Coils	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Refractory	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Item	Y	N	N/A	Acc	Comment
Demister	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Vane Pack	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Baffles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Trays	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Filter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Internal Coating	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Tube Sheet	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Tube Bundle	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Edmonton (780) 437-4747	Fort McMurray (780) 743-1536	Cold Lake (780) 594-1114	Mailing Address
Calgary (403) 279-6121	Grande Prairie (780) 532-2283	Red Deer (403) 347-1742	5311 - 86 Street
Nisku (780) 955-7616	High Level (780) 841-0470	Tulsa, OK (918) 446-8773	Edmonton, Alberta
Barrhead (780) 674-3018	Lloydminster (780) 875-6455	Houston, TX (281) 476-4444	T6E 5T8



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Page: 2 of 2
IRISNDT #: 137868

Client: CNRL LSD: 07-32-012-13W4 Jurisdiction #: A2698238

Attached to Vessel Inspection Report #

Additional Attachments # of pages Specify

NDE Performed UT MT PT ET RT OTHER

NDE Report # UT readings entered into Client's Maxitrack account

NCR Raised Operational Action Item Raised Repair Action Item Raised Deferred Action Item Raised

Inspection Comments:

An external and internal visual inspection along with a UT survey were performed to verify the integrity of this vessel for continued service. No major concerns were found and the vessel is considered acceptable for continued service.

External Findings: (Inspected by Wes Gans)

Name plate was intact and readable. PSV removed for servicing, no block valves between shell and PSV-vents to Pop Tank. This bellows PSV should have a 'plastic street elbow' (pointed down) inserted into the threaded opening in body to prevent rain/snow from entering and damaging the bellows.

The vessel was removed from service for cleaning and inspection. Associated flanges/bolting/gaskets/threads were intact and showed no evidence of deterioration, visible cracking or process leaks. All inside uninsulated piping found to be secure and in acceptable condition with no corrosion.

The outside Insulated portion of vessel in good condition (some dimpling from hail-West end). On East side and North/West side of vessel, bldg. to cladding seal broken and open to atmosphere. Insulation cladding of outside piping in good condition, a few crushed areas noted on West side.

Anode wire broken off (East end). Vessel appears secure and level.

External NDE Findings:

Ultrasonic Corrosion Survey conducted by Kris Katryniuk. All UT readings were found to be acceptable at time of inspection. All UT readings referenced to Dwg. 137868-KK-12 and recorded in client's Maxitrack account.

Internal Findings: (Inspected by Kirandeep Singh)

Coating in good condition-no repairs required
Replace depleted sections of anode strings-operations was notified
Good condition-no other concerns

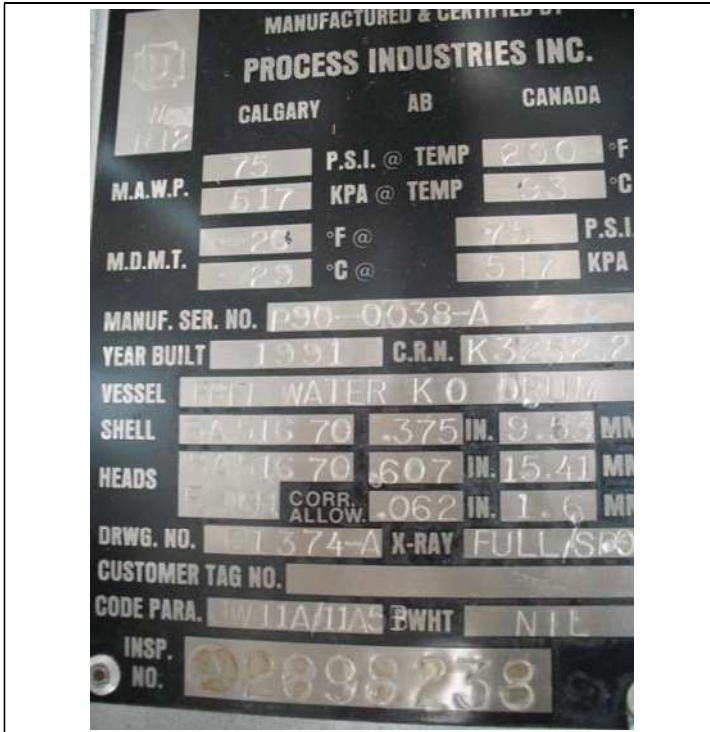
Refer to attached photos.

Recommendations:

Install 'plastic street elbow' on PSV as per comments. Consider re-engineering need for bellows PSV in this application. Loosen off anchor bolts at sliding end (East). Repair broken off anode wire (East end). Re-seal cladding to bldg. seam at East end and North/West end of building. Replace depleted sections of anode strings. Continue to inspect vessel at regular scheduled interval.

Form with fields for Unit #, Kilometers, Consumables, Inspector (Wes Gans), Personnel, and Client Representative.

Table with 7 columns: Location, Phone 1, Phone 2, Phone 3, Phone 4, Phone 5, Mailing Address.



Grand Forks-FWKO_Nameplate



Grand Forks-FWKO_Inside Bldg.



Grand Forks-FWKO Outside Bldg.



Grand Forks-FWKO Outside Bldg.



Grand Forks-FWKO Outside Bldg.



Grand Forks-FWKO Dimpled Insulation



Grand Forks-FWKO Crushed Piping Cladding



Grand Forks-FWKO PSV



Grand Forks-FWKO Broken Anode Wire



Grand Forks-FWKO Anode



Grand Forks-FWKO Internal Nozzles



Grand Forks-FWKO Internal Piping



Grand Forks-FWKO Internal View of Shell