



## VESSEL INSPECTION SUMMARY

Report #: **141168-SS-91**  
Inspect Date: 04/15/2010  
Page: 1 of 5  
IRISNDT #: 141168

Client: CNRL District: Med. Hat - West Field: Taber  
Facility: 09-17-011-16W4 Unit / Skid #: N/A LSD: 09-17-011-16W4  
Jurisdiction #: A0227873 Equip Tag #: N/A Serial #: LM-2191  
CRN #: H0330.2 Nat'l Bd #: N/A Year Built: 1987  
Manufacturer: C.E. Natco Ltd. Equipment Description: Free Water Knockout Drum  
Status: In Service - Date Removed From Service: \_\_\_\_\_ Service: Sour  
MAWP Shell: 75 Psi @ 200 °F Height/Length: \_\_\_\_\_ Code Stamp: ☒ Y ☐ N  
MAWP Tube: \_\_\_\_\_ @ \_\_\_\_\_ Size/Diameter.: \_\_\_\_\_ Insulated: ☒ Y ☐ N  
MDMT: -20 °F RT: RT-4 Volume: \_\_\_\_\_ PWHT: ☐ Y ☒ N  
Support Type: Saddle Manway: ☒ Y ☐ N  
C.A.: 0.0625 in. Coated: ☐ Y ☒ N Clad: ☐ Y ☒ N J.E.: N/A (No Remote Access: ☐ -

Component	Material	Nominal Thk	Diameter	OD/ID	Tube Side	Shell Side
- Shell	SA 516 70	0.500 in.			<input type="checkbox"/>	<input type="checkbox"/>
North - Head	SA 516 70	0.708 in.			<input type="checkbox"/>	<input type="checkbox"/>
South - Head	SA 516 70	0.564 in.			<input type="checkbox"/>	<input type="checkbox"/>
-					<input type="checkbox"/>	<input type="checkbox"/>
-					<input type="checkbox"/>	<input type="checkbox"/>

### Comments:

Nameplate secure & legible

### 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: \_\_\_\_\_ 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: \_\_\_\_\_ Location of PSV: \_\_\_\_\_

### PSV Comments

No safe access to PSV.  
Data plate insulated over.



Client: CNRL LSD: 09-17-011-16W4 Jurisdiction #: A0227873

### External Inspection Results - VE

Item	Y	N	N/A	Condition	Comment	NCR	Action Item	Priority
Nameplate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	Secure & legible	<input type="checkbox"/>	<input type="checkbox"/>	
Foundation and Supports	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	Supported on saddles	<input type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept		<input type="checkbox"/>	<input type="checkbox"/>	
Grounding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	On North side	<input type="checkbox"/>	<input type="checkbox"/>	
Insulation Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reject	Some damage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3
PSV	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		No safe access	<input type="checkbox"/>	<input type="checkbox"/>	
Shell & Heads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	In good condition	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Surfaces (Paint)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	In good condition	<input type="checkbox"/>	<input type="checkbox"/>	
Aux Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept		<input type="checkbox"/>	<input type="checkbox"/>	
Cathodic Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	
Alignment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept		<input type="checkbox"/>	<input type="checkbox"/>	
Flange Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept		<input type="checkbox"/>	<input type="checkbox"/>	
Pressure Gauge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	40 psi	<input type="checkbox"/>	<input type="checkbox"/>	
Piping from Vessel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept		<input type="checkbox"/>	<input type="checkbox"/>	
Temperature Gauge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	14 C	<input type="checkbox"/>	<input type="checkbox"/>	
Sight Glass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Accept	4 sight glasses	<input type="checkbox"/>	<input type="checkbox"/>	
Leaks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		No leaks noted	<input type="checkbox"/>	<input type="checkbox"/>	
Current UT Survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			UT Company: Matrix		
Previous UT Survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			UT Company:		

### LEGEND:

Priority 0 - General Recommendations

Priority 1 - Goal date is 30 days from the activity date

Priority 2 - Goal date is 90 days from the activity date.

Priority 3 - Goal date is 1 Year from the activity date.

Priority 4 - Goal date is 5 Years from the activity date.

### External Visual Observations

### Manual Review Required By Customer Representative -

This Free Water Knockout Drum is partially insulated.  
 Nameplate located on North saddle support is secure and legible.  
 Shell and a section of the South head are painted with minor chips throughout. Negligible corrosion at exposed areas.  
 North head is also un-insulated with 5% paint loss. Less than 0.005" corrosion at exposed areas.  
 West side of shell is insulated with a 5" x 2" hole in cladding towards the bottom of the South head.  
 All anchor bolts in place and secure.  
 4 sight glasses associated with this vessel. All in good condition, with no damage or defects. Threaded connections good.  
 Pressure gauge shows no concerns. Reading 40 psi.  
 Temperature gauge also no concerns. Reading 14 C.  
 Vessel is grounded on the North side. Ground wire is securely attached with no damage visible.  
 No misalignment visible.  
 No leaks noted at time of inspection.

UT was carried out with GE DMS2 IRISNDT#31098.  
 No low UT readings found.

Refer to the attached photos, UT data and drawing for details.



## VESSEL INSPECTION SUMMARY

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Inspect Date: 04/15/2010  
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Client: CNRL

LSD: 09-17-011-16W4

Jurisdiction #: A0227873

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

Item	Y	N	N/A	Condition	Comment	NCR	Action Item	Priority
Shell	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	
Manway	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	
Welds	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	
Heating Coils	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	
Vane Pack	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	
Trays	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	
Internal Coating	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	
Tube Bundle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	

#### LEGEND:

Priority 0 - General Recommendations.

Priority 1 - Goal date is 30 days from the activity date.

Priority 2 - Goal date is 90 days from the activity date.

Priority 3 - Goal date is 1 Year from the activity date.

Priority 4 - Goal date is 5 Years from the activity date.

### Internal Visual Observations

### Manual Review Required By Customer Representative -

5311 – 86 Street, Edmonton, Alberta T6E 5T8 Phone: (780) 437-2022 Fax: (780) 438-1436

Calgary (403) 279-6121  
Lloydminster (780) 875-6455  
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Fort McMurray (780) 743-1536  
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Texas City, TX (490) 945-2262  
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# MATRIX INSPECTION

## VESSEL INSPECTION SUMMARY

Report #: **141168-SS-91**  
Inspect Date: 04/15/2010  
Page: 4 of 5  
IRISNDT #: 141168

Client: CNRL LSD: 09-17-011-16W4 Jurisdiction #: A0227873

Attached to Vessel Inspection Report # \_\_\_\_\_

Additional Attachments # of pages \_\_\_\_\_ Specify \_\_\_\_\_

NDE UT ☒ MT ☐ PT ☐ ET ☐ RT ☐ OTHER ☐ \_\_\_\_\_

NDE Report #: \_\_\_\_\_

Items Raised: NCR No Operational Action Item No Repair Action Item No Deferred Action Item Yes

### Action Items / Recommendations:

Repair damaged insulation:

5" x 2" hole in cladding towards the bottom of the South head.

Continue to carry out visual internal, external and UT survey at the regular required inspection frequency.

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

Meets Code Criteria: - Yes

Re-Inspection Required - No

### Recommended Inspection Intervals:

VE Inspect.	Last Inspection:	-	Interval (yrs)		Next Inspection:	- 0000
VI Inspect.	Last Inspection:	-	Interval (yrs)		Next Inspection:	- 0000
UT Inspect.	Last Inspection:	-	Interval (yrs)		Next Inspection:	- 0000
PSV Service	Last Inspection:	-	Interval (yrs)		Next Inspection:	- 0000

Unit # \_\_\_\_\_ Kilometers: \_\_\_\_\_

In 00:00 Out 00:00 Hrs \_\_\_\_\_

In 00:00 Out 00:00 Hrs \_\_\_\_\_

Personnel: \_\_\_\_\_

P.O.# / W.O.#/AFE #: \_\_\_\_\_

Consumables:

Inspector:

Stephanie Simm (Print) PESL: \_\_\_\_\_

(Sign) API: 510 - 30892

Client Representative:

I am in full agreement with report contents: } (Print) \_\_\_\_\_  
(Sign) \_\_\_\_\_

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### Equipment Photographs:

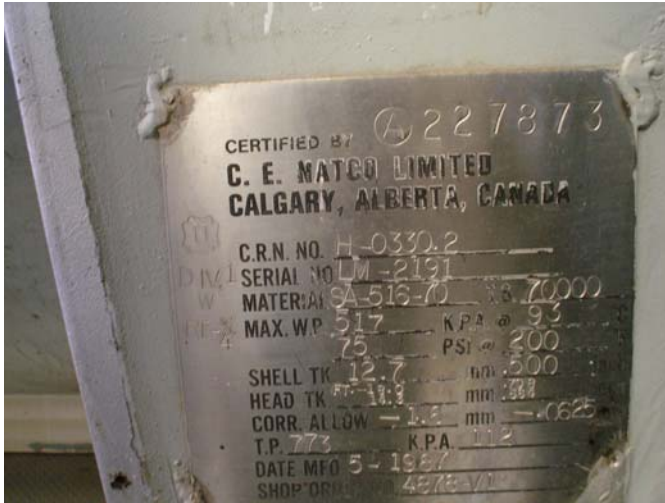


Figure 1\_Nameplate\_16April2010



Figure 2\_East Side\_16April2010



Figure 3\_West Side\_16 April2010