

Integrity Status:

SCRUBBERS INSPECTION REPORT

Date:

(Metric)

August 18, 2010

Rev. 1-22-09

Report #:

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IR100818RPLm

AL HINZ 77275 Area Supervisor: W.O. / C.C.# STATIC DATA 545993 A-4060.32 Alberta Reg. #: CRN: National Board #: -Equipment Number: 62045563 Notification #: Classification: 0196404 Manufacturer: WATERFLOOD SERVICE & SALES LTD Serial Number: **INLET SCRUBBER** 07-30-048-01W4 Equip. Description: Location (LSD): Equipment Tag #: Year Built: 2001 Company I.D.#: BC-158048 Province Installed: ALBERTA Registration #: Skid / Building #: YES YES NO Nameplate Attached: Legible: U1A Available: MAWP: 1724 Kpa Diameter: O.D 406 mm NO Efficiency: % Radiography: MAWT: 93 °C Diameter: I.D. 387 mm Stress Relief: NO Code Stamp: MDMT: -29 °C Length: 1168 mm Ext. Coating: YES Position: VERTICAL SIS m3 Overall Length: 1702 mm NO SKIRT Insulated: Support: Capacity: Type: Manway: NO Internal Coating: NO Size: mm Thickness: Internal Cladding: NO Test Pressure: Type: Thickness: kpa NO Size: Inspection Port: Location: #1 #2 mm mm Material **Thickness** Corrosion Allowance Type SHELL N/A 9.53 TOP HEAD **ELLIPTICAL** SA-516-70 9.53 SA-516-70 **BOTTOM HEAD ELLIPTICAL** 9.53 mm mm Nozzle Description I.D. # **NPS** Flange **Thickness** Type Material Length Rating **RFWN SA-106B** 7.6 76 Inlet 76 150 -# Outlet 102 150 **RFWN SA-106B** 8.6 76 25 150 # **RFWN** SA-234-WPB 6.4 305 Drain PROCESS DATA NATURAL GAS Product Description: Service: **SWEET** -Operating Pressure: 69 Operating Temperature: °C PSV STATIC DATA Tag Number: Manufacturer: **TAYLOR** Company I.D. #: T-8200-2 Equipment # Model # / Type: Code Stamp: Serial Number: 83353-7 OG1316.23419087YT UV NB CRN: Inlet Size: Back Pressure: 51 Set Pressure: 345 Kpa Kpa Rating: mm Outlet Size: Rating: 474 SCFM 06/2010 Capacity: Service Date: mm Location of PSV: TOP OF INLET SCRUBBER INSPECTION DETAILS CODE INSPECTION UT Inspection Reason: Inspections Required: VE Inspection Test Plan: Inspection Type Used: VE UT VE UT Last Inspection Date: Next Inspection Type: 2015 Outstanding Repairs: NO RBI Category: С Next Inspection Due: Α В D

VESSEL STATUS

YES

Inventory Status:

Partial inspection; do not reschedule.

SUITABLE FOR CONTINUED SERVICE

This IR completes a thorough inspection; reschedule as indicated.



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INSPECTION SUMMARY

A thorough inspection to verify the equipments integrity was done by VE and UT.

There were no rejectable defects observed at this time; the vessel can be recommended fit for service.

There are no recommendations to be made at this time.

There were no repairs performed that were related to this inspection.

No NCR's were issued at this time.

No IDR's were issued at this time.

There was no internal inspection performed at this time.

There was no internal NDE performed during this inspection.

The nameplate is in tact and legible.

The instrumentation and its tubing are in good working condition with no detectable leaks.

The site glass drain is properly connected and in good condition.

The pressure retaining welds are in tact with no evidence of deterioration or visible cracking.

The vessel support is securely welded to the skid floor.

There is adequate access to the bottom head.

The vessel's ground connection is through the skid's ground rod.

The vessel is protected by a PSV that is in fair condition.

The vessel is painted with no notable coating defects.

The piping and piping attachments are in fair condition with no detectable leaks.

The piping bolt up grading is B7 and 2H.

The attached piping is painted with no notable defects.

RECOMMENDATIONS

REPAIRS COMPLETED

INSPECTION OBSERVATIONS

NON COMPLIANCES ISSUED

INSPECTION DEFICIENCIES ISSUED

LLOYDMINSTER SOUTH BOOSTER

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EXTERNAL VISUAL INSPECTION ID NCR Comments Description Condition Location GENERAL Acceptable V2 No Corrosion V3 Acceptable Leaks No V7 Heads Fair Acceptable Acceptable V9 Electrical Ground Fair V11 Coating/Painting Acceptable Fair V13 Gauges/Site Glass Fair Acceptable Acceptable V14 Shell Fair SUPPORTS V24 Saddle/Skirt Fair Acceptable CONNECTIONS Acceptable V33 Nozzles Fair Bolting Fair Acceptable Acceptable V38 Flanges Fair RELIEF DEVICE V51 Other (Please Explain) Acceptable Fair V52 Corrosion Acceptable No V53 Leaks No Acceptable V54 Restricted Inlet/Outlet No Acceptable EXTERNAL NDE NDE inspections were performed by Silvertip Inspection Services Ltd. Some of the UT values recorded on the vessel are slightly below nominal. The UT values recorded on the drain nozzle are slightly below nominal. See the attached NDE reports for more detailed information. INTERNAL VISUAL INSPECTION INTERNAL NDE PRESSURE TESTS Test Report #: Test Completed: Test Pressure: Kpa Test Acceptable: INSPECTOR CERTIFICATION AND ACCEPTANCE I, the undersigned, certify that the equipment stated above has been inspected in accordance with the assigned task list and that the statements within this report are correct and represent my inspection findings. External Inspector's Name: Inspector's Certification: Inspector's Signature: Date: **REMI LACASSE API 510 AUGUST 18, 2010** Date: Internal Inspector's Name: Inspector's Certification: Inspector's Signature: CHIEF OR LEAD INSPECTOR'S ACCEPTANCE AND SCHEDULE CONFIRMATION Inspector's Name: Inspector's Certification: Inspector's Signature: Date: **RAY TRACHUK** Change to: Vessel Inspection Interval: Leave "As Is": Change to: PSV Inspection Interval: Leave "As Is": 5 Years Years Years Years

Report Entered to SEQA Database by:

Static Data Verified by:



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NAMEPLATE

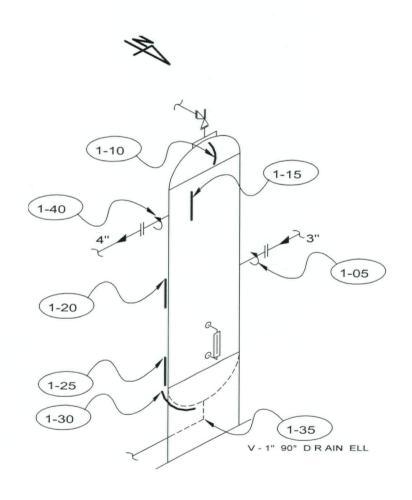


OVERALL VIEW

SCRUBBER UT REPORT

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INSPECTION	SERVICE	S LTD.													1100. 12	
FACILITY:		LLOYDMINSTER SOUTH BOOSTEI				DATE:			AUG	UST 18, 2	010	REPORT #	# :	IR10081	8RPLm	
AREA SUPERVISOR: AL HINZ										W.O. / C.C	.#	77275				
							STATIC	DATA			A Comment of the					
Alberta Reg. #: 545993				CRN: A-40			National Box			ard #: -						
Equipment Num	ber:	62045563	62045563				Notification #: -			Vessel Clas			S:			
Manufacturer:		WATERF	TERFLOOD SERVICE & SALES LTD					Serial Num			ber: 0196404					
Equip. Description	on:	INLET SO	CRUBBER								Location (L	SD):	07-3	0-048-01V	V4	Tall s
Equipment Tag #:		-				Year Built: 2001			Company I.I			D.#: BC-158048				
Province Installe	ed:	ALBERT	A		Re	egistration #	-			_ =	Skid / Build	ing #:	-		1-0 (1-17)	
MAWP:	1724	Kpa	Diameter: O.	D. 4	06	mm	Radiograph	ıy:	NO	Nozzl	e Rating: -	#	P	osition:	VERTICA	L
MAWT:	93	°C	Diameter: I.D). 3	87	mm	Stress Relie		NO	Code	Stamp: -		S	upport:	SKIRT	
MDMT:	-29	°C	Length: S/S	1	168	mm	External Co	ating:	YES	Capa	city:	m3	$\overline{}$	sulated:	NO	
Internal Coating:	NO		Thickness:			mm	Internal Cla	dding:	NO	Type:			T	hickness:		mm
				Material					Thickne	SS			Co	rrosion Al	lowance	
Shell			N/A				9.53			mm				- T L E-	mm	
Top Head			SA-516-70				9.53			mm	mm			mm		
Bottom Head				SA-516-70	0				9.53		mm				7 1	mm
Nozzle Descrip	tion	A 11	I.D. #	NPS	3	Flange	Rating		pe		Material		Thick	ness	Lei	ngth
Inlet			-	76	mm	150	#	RF	WN		SA-105N		7.6	mm	76	mm
Outlet	La T		-	102	mm	150	#	RF	WN		SA-105N		8.6	mm	76	mm
Drain			-	25	mm	150	#	RF	WN		SA-105N		6.4	mm	305	mm
							PROCESS	DATA	1717							
Product Descrip	tion:					NATUR	RAL GAS				Servi	ce: S	WEET			
Operating Press	ure:		- ,	69		Kpa	Opera	ating Tem	perature:							°C



TML	TML LOCATION ITEM DESC.					
INIL						
1-05	3" INLET NOZZLE	B-T				
1-10	TOP HEAD	B-T				
1-15	TOP SHELL	T-B				
1-20	ACROSS INLET	T-B				
1-25	BOTTOM SHELL	T-B				
1-30	BOTTOM HEAD	T-B				
1-35	V - 1" 90° DRAIN ELL	T-B				
1-40	4" OUTLET NOZZLE	B-T				

NOM.	C.A	MIN.
7.6	N/A	N/A
9.5	N/A	N/A
4.5	N/A	N/A
8.6	N/A	N/A

ı	@ LOW PNT
г	7.3
H	8.9
Г	9.2
Г	9.3
Г	9.4
Г	9.7
Г	3.7
Г	8.3

BELOW	BELOW		
NOMINAL	MINIMUN		
0.3	-		
0.7	-		
0.3	-		
0.2	-		
0.1	-		
	-		
0.9	-		
0.3	-		