

		Pressure Vessel Inspection Audit		
		Job #:	Inspection Date:	Next Inspection Date:
		3448	02/26/2013	02/26/2013

Vessel Static Data

Registration #:	A2781543	CRN#:	K-6455.2	Location:	Zama
MAWP (S.S.):	75 PSI	MAWT (S.S.):	250 ° F	C.A. (S.S.):	.125 in.
MAWP (T.S.):	kPa / PSI	MAWT (T.S.):	° F / ° C	C.A. (T.S.):	in. / mm
Vessel Description:	Treater			J.E. :	RT: RT-1

Component		Diameter	O.D. I.D.	Nominal Thickness	Material (Spec & Grade)	Shell Side or Tube Side
Location	Type					
1.	Shell			0.5 in	SA-516-70N	
2.	Head			0.74 in		
3.						
4.						
5.						

Review of Inspection Findings

NCR's:	No	Internal Inspection:	No
Fit For Service:	Yes	External Inspection:	Yes
Inspection Frequency:	1 due 2014	Ultrasonic Thickness:	Yes
Service:	Sour	Other NDE:	No
Vibration Noted:	No	NDE Type:	

Review of NDE Findings

Any Thickness found below Nominal - Corrosion Allowance:	Yes / No
Any Thickness found below 50% of Nominal Thickness:	Yes / No
Any Thickness found below Pressure T-Min:	Yes / No
Other NDE Technique(s) acceptable:	Yes / No

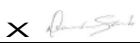
Review of PSV information

Passed Pop Test:	Yes / No	Date of Service:	Not given
Service Company:		Due for Service Date:	

Comments:
Require PSV and UT reports for assessment of the vessel

Chief Inspector
(Name): **Dennis Simons**

Chief Inspector
(Signature):

08/05/2013

 Dennis Simons
 Chief Inspector - Apache
 Signed by: Dennis Simons



4810-93 Street, Edmonton, Alberta T6E 5M4
Phone: (780) 469-2401 Fax: (780) 468-2422

Report No: DC1000920

Client	Apache Canada Ltd.	Inspection Date	Feb 26, 2013		
Prov. Reg. #	AB 2781543	Inspection Type	VE / UT		
Equipment Type	Treater	Location	Zama		
Tag/Equip.	Treater	LSD	AB 09-28-117-04W6		
Status	In Service	Downhole LSD	09-28-117-04W6		
Manufacturer	Natco Canada Ltd	Area	Northern		
Serial Number	L-8-340	Year Built	1991		
CRN #	K-6455.2	Service	Sour		
Comp/Unit Id		Manway	Yes		
Nat.Board #		Coating			
Interim Insp'n		Interim Type			
Next Inspection		Next Insp Type			
Length		Height			
Volume		Client Reference			
Owner	Apache Canada Ltd.	RT	1	HT	YES
Foreman	Bryan Gibbs	RAE Job No.	3448		
ABSA	Plant: H Vessel: K Process: W Special: B	ASME	Sec. VIII div. 1		
History Log					

Component	Shell				
MAWP	75.0 PSI @ 250 °F		MDMT	5 °F @ 75.0 PSI	
Material	SA-516-70N		Material Thickness	0.5 in	
Diameter			Length		
Corrosion Allowance	0.125 in				

Component	Heads				
Material			Material Thickness	0.74 in	
Corrosion Allowance	0.125 in				



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Comments

This vessel was inspected to the Apache 4.4PRD-001VS Category 1 Unfired Separator procedure.

Next inspection date, frequency and type to be determined by Apache Chief Inspector.

Figure: 1



LSD Sign

Building Observations

The building was generally in serviceable condition. The floor was clean and in serviceable condition. The cladding was generally in serviceable condition. The building structure was adequately supported, level, and the ground wire was securely attached.

Figure: 2



Building Overview

Piping Observations

The attached piping was generally in serviceable condition. It was sufficiently supported with no damage, distortion or undue stress evident. Contents and flow direction were clearly marked. The threaded joints were properly connected, and exhibited no signs of leakage.



Figure: 3



Inlet Piping

Figure: 4



Outlet Piping

Figure: 5



Produced Water / Sour Crude Outlet Piping

PSV Observations

There was no safe access to the PSV mounted on top of the treater. The set point and service details could not be obtained either.



Figure: 6



PSV Overview

External Observations

The Treater is located partially inside a building. The nameplate was legible and securely attached. The vessel was in the horizontal position and adequately supported. There are no makeshift structural attachments on the vessel shell or pressure containing components. There was no damage, distortion, or stress evident on piping connections.

The insulated/clad sections of the vessel showed no relevant indications of defects, damage or corrosion under insulation (CUI). The section of the shell not insulated/clad was fully painted, and the paint was in serviceable condition, with only minor scattered surface corrosion visible. The heads were insulated

The fire tube flange connection was fully bolted and showed no evidence of leakage. The sight glass on the firebox was clear and in serviceable condition. The flame arrestor appeared clean and in serviceable condition. The stack was bare steel. The stack to firetube exhaust flange was fully bolted and showed no signs of leakage.

Figure: 7



Fire Tubes and Stack

Figure: 8



Spark Arrestors and Fuel Gas Piping



Figure: 9



Fire Tube Nameplates

Figure: 10



Nameplate Close Up

Figure: 11



Vessel Overview

Figure: 12



Gas Boot

Figure: 13



Manway Davit Arm and Single Nut



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UT1 Observations

Ultrasonic thickness data collected by TEAM (third party company).

Recommendations

Based on the scope of this inspection, the vessel appears suitable for continued service.

Inspector: Dwight Colp

Trevor Paananen
IBPV INSPECTOR
BSA Certificate # 167

Reviewed By: Trevor Paananen

Sep-11

☐ Installation ☐ External ☐ Internal

Date:	Feb 27	WO #:	Sketch/Notes:		PSV MODEL -					
Inspected By:	D. Gell	Cert. #:	HT RT-1		PSV CRN -					
Coordinator:	Darrel Erickson				PSV DISCHARGES TO -					
Ops Foreman:	Bryan Gibbs				PSV SET IS OK - Y or N					
Region:	Northern	Area:			NO ACCESS					
Facility:	Zama									
Location, LSD:	09-28-117-04WG									
Description:	<input type="checkbox"/> Vessel <input type="checkbox"/> Exchanger <input type="checkbox"/> Tank <input checked="" type="checkbox"/> Heater									
Service Fluid:	<input type="checkbox"/> Sweet <input type="checkbox"/> Sour Fluid Name:									
Unit Name / #:	TREATER									
Equip. Name:	Treater Line Heater									
Jurisdiction #:	A2781543		CRN: K-6455.2							
Manufacturer:	Natco Canada		<input type="checkbox"/> Photographed Photo ID#:							
Year Built:	1992	S/N: L-8-340	PSV Data:							
Block Valve(s) Installed:		<input type="checkbox"/> Yes <input type="checkbox"/> No		Car-sealed Open: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A						
Zones:	MDMT	Design T	MAWP	Set Press.	Tag #					
Shell Side:	5°F	250°F	517 RPA	NO ACCESS						
Tube Side:			75 PSI							
Other:										
Components:	Diameter	Length	Material	Nominal t	CA					
Shell:			SA-516-70N	.500	.125					
Head:			740-100	.125	.125					
Channel:			.615							
Tube:										
Other:										
Orientation:	<input checked="" type="checkbox"/> Hor. <input type="checkbox"/> Ver.	Foundation:	<input type="checkbox"/> Concrete <input type="checkbox"/> Gravel <input type="checkbox"/> Timbers <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Other:	Condition: Good						
Support:	<input checked="" type="checkbox"/> Saddle:	<input type="checkbox"/> Seal-welded	<input checked="" type="checkbox"/> Free to move	Condition: Good						
	<input type="checkbox"/> Skirt:	<input type="checkbox"/> Free of debris	Comment:	Condition:						
	<input type="checkbox"/> Hangers:	<input type="checkbox"/> Secure	Comment:	Condition:						
	<input type="checkbox"/> Other (Specify):			Condition:						
Overall:	General Condition: Good EXTERNALS		<input type="checkbox"/> Dead Legs Exist	Electrical Grounding: <input type="checkbox"/> None <input checked="" type="checkbox"/> Indirect <input type="checkbox"/> Direct <input type="checkbox"/> Secure						
Ext. Surface:	<input checked="" type="checkbox"/> Painted <input type="checkbox"/> Fire-proofed <input checked="" type="checkbox"/> Cladded <input checked="" type="checkbox"/> Insulated <input type="checkbox"/> Other:		Condition:							
Ext. Fixtures:	<input type="checkbox"/> Ladder <input type="checkbox"/> Platform(s) <input type="checkbox"/> Other (Specify):		Condition:							
Int. Surface:	<input type="checkbox"/> Coated <input type="checkbox"/> Weld Overlay <input type="checkbox"/> Cladded <input type="checkbox"/> Lined <input type="checkbox"/> Thermal Sprayed		Condition:							
Int. Fixtures:	<input type="checkbox"/> Baffle <input type="checkbox"/> Vortex Breaker <input type="checkbox"/> Float <input type="checkbox"/> Weir <input type="checkbox"/> Impingement plate		Condition:							
Nozzles:	<input checked="" type="checkbox"/> MW <input type="checkbox"/> Inspection port only		Size:	<input checked="" type="checkbox"/> Davit arm: <input checked="" type="checkbox"/> Greased <input checked="" type="checkbox"/> Double-nutted	Condition:					
	<input type="checkbox"/> Reinforcement pads used		<input type="checkbox"/> Weep holes visible	<input type="checkbox"/> No evidence of weeping	Comment:					
Piping:		Well-coated	Proper joints	Free of leaks	Proper supports	Max. Spans	Fluid is identified	Flow dir. shown	Drains properly	Comments:
	<input checked="" type="checkbox"/> PSV piping:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PSV is mounted on: PIPING
	<input checked="" type="checkbox"/> Inlet piping:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/> Outlet piping:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/> Drain piping:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/> Instrument piping:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
Valves:	<input type="checkbox"/> Manual isolation valves:		<input checked="" type="checkbox"/> Free from leaks		Comment:					
	<input type="checkbox"/> Automated control valves:		<input type="checkbox"/> Free from leaks		Comment:					
	<input checked="" type="checkbox"/> Vents and/or drains:		<input checked="" type="checkbox"/> Properly plugged		Comment: MAWP 517 RPA					
Gauges:	<input type="checkbox"/> Pressure:	Range: 0 -	Reading: 195 KPA		Condition: Good					
	<input checked="" type="checkbox"/> Temperature:	Range: -20 - 120 C	Reading: 57 C		Condition: Good					
	<input checked="" type="checkbox"/> Liquid Level:	Reading:		Condition: NOT ABLE TO READ						
Recom- mended Actions:	1. PSV DATA REQUIRED									
	2.									
	3.									
Summary:	The vessel exterior and the associated piping are considered to be in Good condition.									

Additional notes are attached: ☐

Item ☒ is suitable for service. ☐ is NOT

Inspector's Signature: