



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

Report No: MDP004939

Client	Apache Canada Ltd.	Inspection Date	May 10, 2014		
Prov. Reg. #	AB 0497263	Inspection Type	VE / UT		
Equipment Type	Separator	Location	Zama		
Tag/Equip.		LSD	AB 16-15-118-07W6		
Status	In Service	Downhole LSD			
Manufacturer	Orban Industries Ltd	Area			
Serial Number	03.070HS	Year Built	2003		
CRN #	R2234.2	Service	Sour		
Comp/Unit Id		Manway	24"		
Nat.Board #		Coating	No		
Interim Insp'n		Interim Type			
Next Inspection	2018 1 year max interval due 2015		Next Insp Type	VE / UT	
Length	216 in internal inspection required or		Height		
Volume	additional NDT for thorough inspection		Client Reference		
Owner	Apache Canada Ltd.	RT	1	HT	YES
Foreman		RAE Job No.	4300		
ABSA	Plant: H	Vessel: K	Process: W	Special: B	ASME Sec. VIII div. 1
History Log					

Component	Shell of Vessel				
MAWP	740.0 PSI @ 100 °F		MDMT	-20 °F @ 740.0 PSI	
Material	SA-516-70N		Material Thickness	1.25 in	
Diameter	48 in		Length		
Corrosion Allowance					



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Valve Tag No	A0497263	Relief Type	Pressure Safety Valve
Manufacturer	Farris	Set Pressure	740 PSI
Serial Number	C0-27669-A10	Capacity	11376 SCFM
Model	26HA12-120/S5M	Last Service	Jan 1, 2014
CRN	Unknown	Next Service	2018
Service Co.	Apex Valve	Service Interval	48 Months
Service Co. Tag	57875	Inlet Size	2 in
ASME Stamp	UV	Outlet Size	3 in
NB Stamp	YES	Connection	Flanged
Relief Dest.	To Pop Tank	Valve Loc.	On Piping
Comments			

Component	Heads of Vessel		
MAWP		MDMT	
Material		Material Thickness	
Diameter		Length	
Corrosion Allowance			

Building Observations

Access # of Doors:2 Gas test port: Yes
Catalytic Heater: Yes Fire eye: Yes Gas Detection: Yes
Drainage/Condition: Acceptable Lighting: Good
Supports : Piles\Skid
Floors : Checker plate steel
Equipment placed ergonomically: Yes

Piping Observations

Are Mechanical connections acceptable for service? Acceptable
Clad: No Painted: Yes Insulated: No
Condition: Acceptable
Type: Shoe
Are there any dead legs: No
Piping supported adequately: Yes



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PSV Observations

Drainage : Acceptable Supports : Acceptable
Bolting : Acceptable Gasket : Acceptable
Seal wire : Acceptable Service tag : Acceptable
CRN : Acceptable Set Pressure : Acceptable
Installations vertical : Yes
PSV block valves : Yes
Block valve car seal in place : Yes
Car seal log book maintained : No
PSV service report available : No

The PSV was last serviced in the year 2014, no concerns. The PSV service reports were not reviewed but there are no concerns at this time to adjust the service interval for the PSV.

Figure: 1



PSV General View

External Observations

Certificate of inspection permit : No
Grounded : Yes CUI checked : No
Attachments : No Drains : Automatic
Vessel Orientation : Horizontal Installation : In Building
Ladders/Platforms : N/A
Support Structure : Saddles
External Covering : Coated
Condition : Acceptable
Manway : Yes
Manway davit arms
Free to move : Yes
Lubricated : Yes
Carry bolt with washer and double Nuted : Yes
Nameplate attached and legible : Yes

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Figure: 2



Nameplate General View

Figure: 3



Vessel General View

Figure: 4



Pressure Gauge General View

Figure: 5



Temperature Gauge General View

Internal Observations

No internal inspection were completed.

UT1 Observations

See attached ultrasonic testing (UT) report.

General Observations

Equipment was in operation at time of inspection. There was no rotational equipment in or around this building. There was no vibration apparent at the time of inspection. No vibration induced damage was evident. The gauge(s) and associate equipment all appeared to be in good condition and operational.



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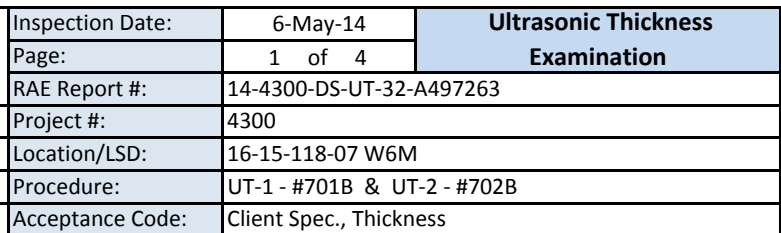
Recommendations

1. The vessel is fit for service.

Inspector : Marnes du Plessis


Reviewed By: Trevor Kovach

internal inspection required or additional NDT --close grid UT for on stream through inspection.



Items Tested:	Horizontal Inlet Separator	Material:	Cabon Steel	Nominal Thickness:	Various
Item Number:	A497263	Surface	<input checked="" type="checkbox"/> Coated	<input type="checkbox"/> Bare Steel	<input type="checkbox"/> Machined
Item Description:	Horizontal Inlet separator & associated piping	Condition:	<input type="checkbox"/> As Ground	<input type="checkbox"/> Shot Blasted	<input type="checkbox"/> As Welded
		Surface Temp:	<input type="checkbox"/> < 0 °C	<input checked="" type="checkbox"/> 0-120 °C	<input type="checkbox"/> 120-260 °C

Instrument Mfr:	Krautkramer	Model:	DMS 2	S/N:	015T76	Cal. Due:	2015
Cal Block S/N:	11-5317	1 or 2 Point Cal:	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	Calibrated Range:	0.100"-1.000'	Couplant:	UTX

Client Representative							
	PRINT		SIGNATURE				
1 ST Technician	Declan Scully			CGSB#:	16124	CGSB Level:	2
	PRINT		SIGNATURE	SNT#:		SNT Level:	
2 ND Technician				CGSB#:		CGSB Level:	
	PRINT		SIGNATURE	SNT#:		SNT Level:	



RAE Engineering and Inspection Ltd
4810 - 93 Street Edmonton, AB, T6E 5M4
ph: 780-469-2401 fx: 780-468-2422

Date:	6-May-14	Ultrasonic Thickness Examination	
Page:	2 of 4		
14-4300-DS-UT-03-A10	14-4300-DS-UT-32-A497263		
Client:	Apache Canada	Project #:	4300
Item Number:	A497263	Location/LSD:	16-15-118-07 W6M
Item Description:	Horizontal Inlet separator & associated piping	Procedure:	UT-1 - #701B & UT-2 - #702B
		Acceptance Code:	Client Spec., Thickness

Photographs of Equipment and Nameplate



View of Nameplate



Overall View of Equipment

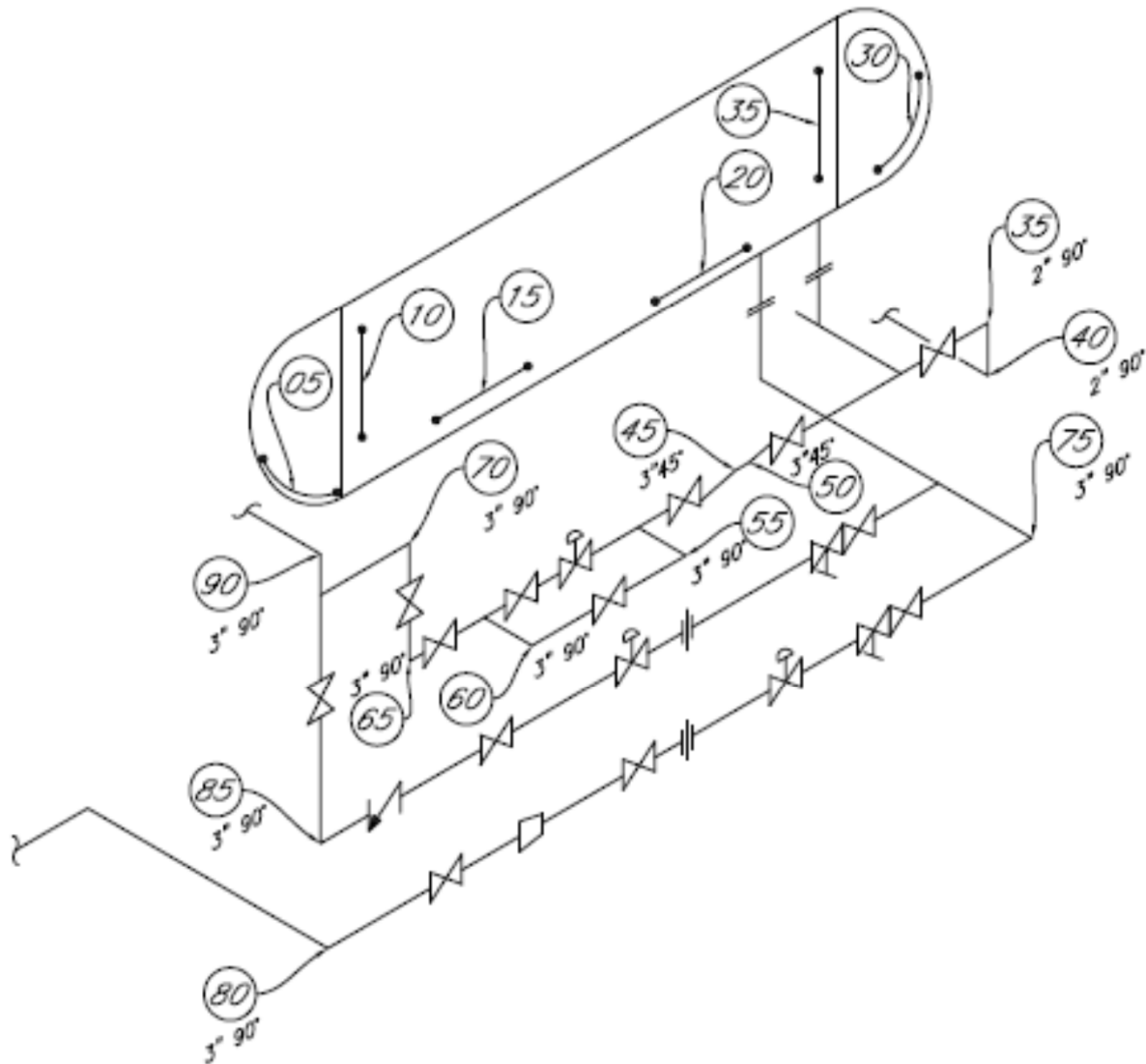
Client Representative	PRINT	SIGNATURE				
1 ST Technician	Declan Scully		CGSB#:	16124	CGSB Lvl:	2
	PRINT	SIGNATURE	SNT#:		SNT Lvl:	
2 ND Technician			CGSB#:		CGSB Lvl:	
	PRINT	SIGNATURE	SNT#:		SNT Lvl:	




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		Acceptance Code:	Client Spec., Thickness

ISO Drawing of Equipment and TMLs



Client Representative	PRINT	SIGNATURE				
1 ST Technician	Declan Scully		CGSB#:	16124	CGSB Lvl:	2
	PRINT	SIGNATURE	SNT#:		SNT Lvl:	
2 ND Technician			CGSB#:		CGSB Lvl:	
	PRINT	SIGNATURE	SNT#:		SNT Lvl:	

		RAE Engineering and Inspection Ltd 4810 - 93 Street Edmonton, AB, T6E 5M4 ph: 780-469-2401 fx: 780-468-2422					Date:		6-May-14		Ultrasonic Thickness Examination								
							Page:		4 of 4										
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Item Number:		A497263					Location/LSD:		16-15-118-07 W6M										
Item Description:		Horizontal Inlet separator & associated piping					Procedure:		UT-1 - #701B & UT-2 - #702B										
							Acceptance Code:		Client Spec., Thickness										
Measurements in: inches						TML Data													
TML	Description						1	2	3	4	5	6	7	8	9	10	11	12	
05	Left Head						1.265	1.264	1.260	1.267	1.266	1.264	1.266	1.267					
	Nom.	N/S	Min.	N/S	Direc.	T-B									Min. =	1.260	Ave. =	1.265	
10	Side Shell						1.267	1.266	1.264	1.266	1.262	1.264	1.266	1.267	1.256	1.260			
	Nom.	N/S	Min.	N/S	Direc.	T-B									Min. =	1.256	Ave. =	1.264	
15	Bottom Shell						1.262	1.264	1.266	1.267	1.264	1.260	1.251	1.260	1.262	1.264			
	Nom.	N/S	Min.	N/S	Direc.	L-R									Min. =	1.251	Ave. =	1.262	
20	Bottom Shell						1.306	1.310	1.302	1.304	1.306	1.302	1.304	1.306	1.310	1.312			
	Nom.	N/S	Min.	N/S	Direc.	L-R									Min. =	1.302	Ave. =	1.306	
25	Side Shell						1.310	1.306	1.304	1.303	1.305	1.306	1.307	1.309	1.036	1.304			
	Nom.	N/S	Min.	N/S	Direc.	T-B									Min. =	1.036	Ave. =	1.279	
30	Right head						1.267	1.264	1.266	1.267	1.266	1.264	1.267	1.266					
	Nom.	N/S	Min.	N/S	Direc.	T-B									Min. =	1.264	Ave. =	1.266	
35	2" XH 90° Elbow						0.224	0.225	0.216	0.214	0.212								
	Nom.	0.218	Min.	0.2	Direc.	T-B									Min. =	0.212	Ave. =	0.218	
40	2" XH 90° Elbow						0.200	0.196	0.194	0.197	0.200								
	Nom.	0.218	Min.	0.191	Direc.	T-B									Min. =	0.194	Ave. =	0.197	
45	3" STD 45° Elbow						0.234	0.236	0.229	0.225									
	Nom.	0.216	Min.	0.189	Direc.	T-B									Min. =	0.225	Ave. =	0.231	
50	3" STD 45° Elbow						0.236	0.234	0.227	0.231									
	Nom.	0.216	Min.	0.189	Direc.	B-T									Min. =	0.227	Ave. =	0.232	
55	3" STD 90° Elbow						0.208	0.205	0.206	0.207	0.195	0.196							
	Nom.	0.216	Min.	0.189	Direc.	R-L									Min. =	0.195	Ave. =	0.203	
60	3" STD 90° Elbow						0.216	0.220	0.219	0.214	0.222	0.219							
	Nom.	0.216	Min.	0.189	Direc.	R-L									Min. =	0.214	Ave. =	0.218	
65	3" STD 90° Elbow						0.205	0.206	0.214	0.213	0.214	0.217							
	Nom.	0.216	Min.	0.189	Direc.	B-T									Min. =	0.205	Ave. =	0.212	
70	3" STD 90° Elbow						0.234	0.231	0.229	0.231	0.240	0.242							
	Nom.	0.216	Min.	0.189	Direc.	B-T									Min. =	0.229	Ave. =	0.235	
75	3" XH 90° Elbow						0.306	0.290	0.293	0.288	0.290	0.286							
	Nom.	0.300	Min.	0.263	Direc.	R-L									Min. =	0.286	Ave. =	0.292	
80	3" XH 90° Elbow						0.298	0.294	0.290	0.293	0.294	0.296							
	Nom.	0.300	Min.	0.263	Direc.	R-L									Min. =	0.290	Ave. =	0.294	
85	3" STD 90° Elbow						0.221	0.224	0.226	0.224	0.221	0.227							
	Nom.	0.216	Min.	0.189	Direc.	B-T									Min. =	0.221	Ave. =	0.224	
90	3" STD 90° Elbow						0.216	0.218	0.224	0.226	0.224								
	Nom.	0.216	Min.	0.189	Direc.	B-T									Min. =	0.216	Ave. =	0.222	
Client Representative		PRINT					SIGNATURE					Scan Direction: T=Top, B=Bottom, N=North, S=South, E=East, W=West, L=Left, R=Right, RHR=Right Hand Rule							
1 ST Technician		Declan Scully										CGSB#:		16124		CGSB Lvl:		2	
		PRINT					SIGNATURE					SNT#:				SNT Lvl:			
2 ND Technician												CGSB#:				CGSB Lvl:			
		PRINT					SIGNATURE					SNT#:				SNT Lvl:			