



**CORROSION SURVEY
CNRL**

District	LSD	Vessel Name	Vessel Number	Serial Number
PEEJAY	00-00-000-0000	SEPARATOR	A3121025	94-059

Facility SATELLITE	Tag Number V-100	Year Built 1995	CRN H 7588.12	Shell MAWP 4964.0 kPa	Shell MAWT 38 °C
Downhole LSD C-049-A/094-A-15	Skid	Manufacturer T & K IRONWORKS	Vessel CA 3.2000 mm	Tube MAWP	Tube MAWT

Band	Material	Nominal	CA	Baseline	Previous	Current	% Wall Loss	TMIN	ST Loss mmpy	LT Loss mmpy	Retirement
05				2018	2018	2023					
Location : Top Head				Ref. 18.440	18.440	18.923					
Shape : Ellipsoidal	SA 516 - 70	19.0500	3.2000	Min. 18.440	18.440	18.872	0.9	12.0917	0.0000	0.0000	2073
OD : 609.6				Avg. 18.796	18.796	18.999	*Default material. *Nominal assumed.				
10				2018	2018	2023					
Location : Top Shell				Ref. 19.710	19.710	19.913					
Shape : Cylindrical	SA 516 - 70	19.0500	3.2000	Min. 19.710	19.710	19.735	0.0	12.3364	0.0000	0.0000	2073
OD : 609.6				Avg. 19.812	19.812	19.837					
15				2018	2018	2023					
Location : Middle Shell				Ref. 19.837	19.837	20.116					
Shape : Cylindrical	SA 516 - 70	19.0500	3.2000	Min. 19.837	19.837	19.913	0.0	12.3364	0.0000	0.0000	2073
OD : 609.6				Avg. 19.939	19.939	20.091					
20				2018	2018	2023					
Location : Middle Shell				Ref. 19.888	19.888	19.913					
Shape : Cylindrical	SA 516 - 70	19.0500	3.2000	Min. 19.888	19.888	19.862	0.0	12.3364	0.0060	0.0060	2073
OD : 609.6				Avg. 19.939	19.939	19.888					
25				2018	2018	2023					
Location : Middle Shell				Ref. 19.735	19.735	20.447					
Shape : Cylindrical	SA 516 - 70	19.0500	3.2000	Min. 19.735	19.735	19.837	0.0	12.3364	0.0000	0.0000	2073
OD : 609.6				Avg. 19.888	19.888	19.888					



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Band	Material	Nominal	CA	Baseline	Previous	Current	% Wall Loss	TMIN	ST Loss mmpy	LT Loss mmpy	Retirement	
30				2018	2018	2023						
Location :	Bottom Shell			Ref. 19.786	19.786	19.050						
Shape :	Cylindrical	SA 516 - 70	19.0500	3.2000	Min. 19.786	19.786	18.872	0.9	12.3364	0.2107	0.2107	2054
OD :	609.6			Avg. 19.862	19.862	19.735						
35				1995	2018	2023						
Location :	Bottom Head			Ref. 19.050	18.694							
Shape :	Ellipsoidal	SA 516 - 70	19.0500	3.2000	Min. 19.050	18.694		1.9	12.0917	0.0149	0.0149	2073
OD :	609.6			Avg. 19.050	18.923							
									*No UT in 2023; unable to obtain readings due to severe rusting.			
									*Default material.			
									*Baseline readings are assumed nominal thickness at date of manufacture.			
40				2018	2018	2023						
Location :	Nozzle			Ref. 7.670	7.670	8.509						
Shape :	90° Elbow	SA 234 - WPB	8.7100	4.2888	Min. 7.670	7.670	7.797	10.5	3.4200	0.0000	0.0000	2073
OD :	60.33			Avg. 8.255	8.255	8.026						
									*Corrosion noted.			
									*Nominal assumed.			
45				2018	2018	2023						
Location :	Piping			Ref. 4.800	4.800	5.461						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 4.800	4.800	5.181	6.5	1.8000	0.0000	0.0000	2073
OD :	60.33			Avg. 5.080	5.080	5.308						
									*Nominal assumed.			
50				2018	2018	2023						
Location :	Piping			Ref. 5.181	5.181	5.486						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 5.181	5.181	5.283	4.6	1.8000	0.0000	0.0000	2073
OD :	60.33			Avg. 5.334	5.334	5.384						
									*Nominal assumed.			



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Band	Material	Nominal	CA	Baseline	Previous	Current	% Wall Loss	TMIN	ST Loss mmpy	LT Loss mmpy	Retirement	
55				2018	2018	2023						
Location :	Piping			Ref. 5.130	5.130	5.740						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 5.130	5.130	5.588	0.0	1.8000	0.0000	0.0000	2073
OD :	60.33				Avg. 5.334	5.334	5.664	*Nominal assumed.				
60				2018	2018	2023						
Location :	Piping			Ref. 4.597	4.597	5.156						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 4.597	4.597	4.749	14.3	1.8000	0.0000	0.0000	2073
OD :	60.33				Avg. 4.953	4.953	5.054	*Nominal assumed.				
65				2018	2018	2023						
Location :	Piping			Ref. 4.902	4.902	5.156						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 4.902	4.902	5.080	8.3	1.8000	0.0000	0.0000	2073
OD :	60.33				Avg. 5.080	5.080	5.689	*Nominal assumed.				
70				2018	2018	2023						
Location :	Piping			Ref. 4.622	4.622	5.003						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 4.622	4.622	4.800	13.4	1.8000	0.0000	0.0000	2073
OD :	60.33				Avg. 4.953	4.953	5.029	*Nominal assumed.				
75				2018	2018	2023						
Location :	Piping			Ref. 4.953	4.953	6.121						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 4.953	4.953	5.156	6.9	1.8000	0.0000	0.0000	2073
OD :	60.33				Avg. 5.080	5.080	5.384	*Nominal assumed.				

CAUTION

CAUTION



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Band	Material	Nominal	CA	Baseline	Previous	Current	% Wall Loss	TMIN	ST Loss mmpy	LT Loss mmpy	Retirement	
80				2018	2018	2023						
Location :	Piping			Ref. 4.826	4.826	5.080						
Shape :	90° Elbow	A 234 - WPB	5.5400	0.6925	Min. 4.826	4.826	4.978	10.1	1.8000	0.0000	0.0000	2073
OD :	60.33			Avg. 4.953	4.953	5.003						



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Method and Equipment

Echo Procedure	Echo Technique	Manufacturer Make / Model	Serial #	Last Cal. Date	Calibration Blocks			
RCSS-NDT-UT-005M Rev 01	RCSS-NDT-UT-006 Rev 01	GE / DMS/USM Go+	GOPLS14090046	11-18-2022	1.000" Step C/S			
Transducer								
Angle	Freq (MHz)	Dia (in)	MFG.	Ref DB	Scan DB	Mode	Cable Length	Couplant
0	5.00	0.25			Ref. +6	Comp. Dual	72.00	UT-X

Inspection Sign Off

Inspected By

Curtis Coleman - CGSB #13265/ SNT-TC-1A UTI, MTII

Review By

Ed Tymensen - CGSB #11424 / SNT-TC-1A UTIII, MTIII, PTIII / API 510 #27479 / API 653 #50947 / AB ISI-PVPP #000711 / SK PEI Class II #229

Asset Comments

*Previous readings provided by client.

Disclaimers:

- Tmin calculations herein are for information purposes only and are not to be considered as engineered calculations
- Tmin calculations utilized are based on ASME VIII Div 1 for pressure equipment, and ASME B31.3 for process piping
- Nozzle Tmin is the higher of calculated Tmin and ASME VIII Div 1 Table UG-45 (Nozzle Min. Thickness Requirements)
- Piping Tmin is the higher of calculated Tmin and API 574 Table 7 (Min. Thickness for Carbon Steel Pipe)
- Items flagged as CAUTION were found to have a minimum UT reading below Nominal - Corrosion Allowance
- Items flagged as CRITICAL were found to have a minimum UT reading below Tmin



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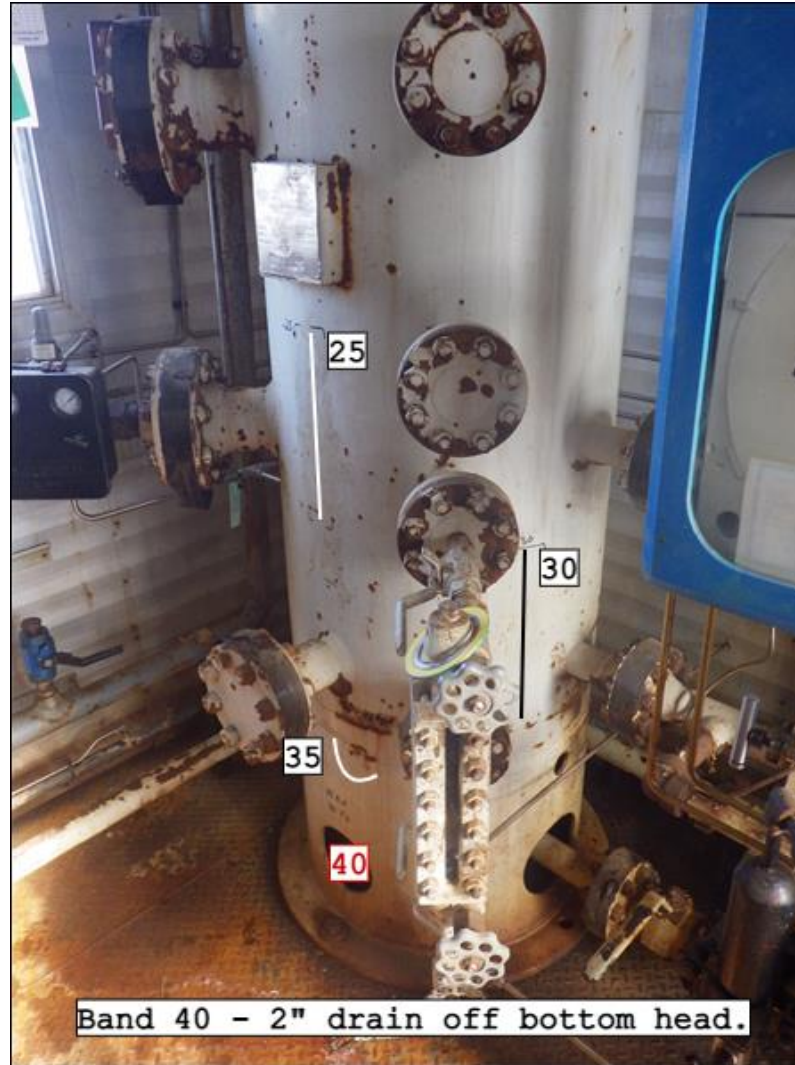
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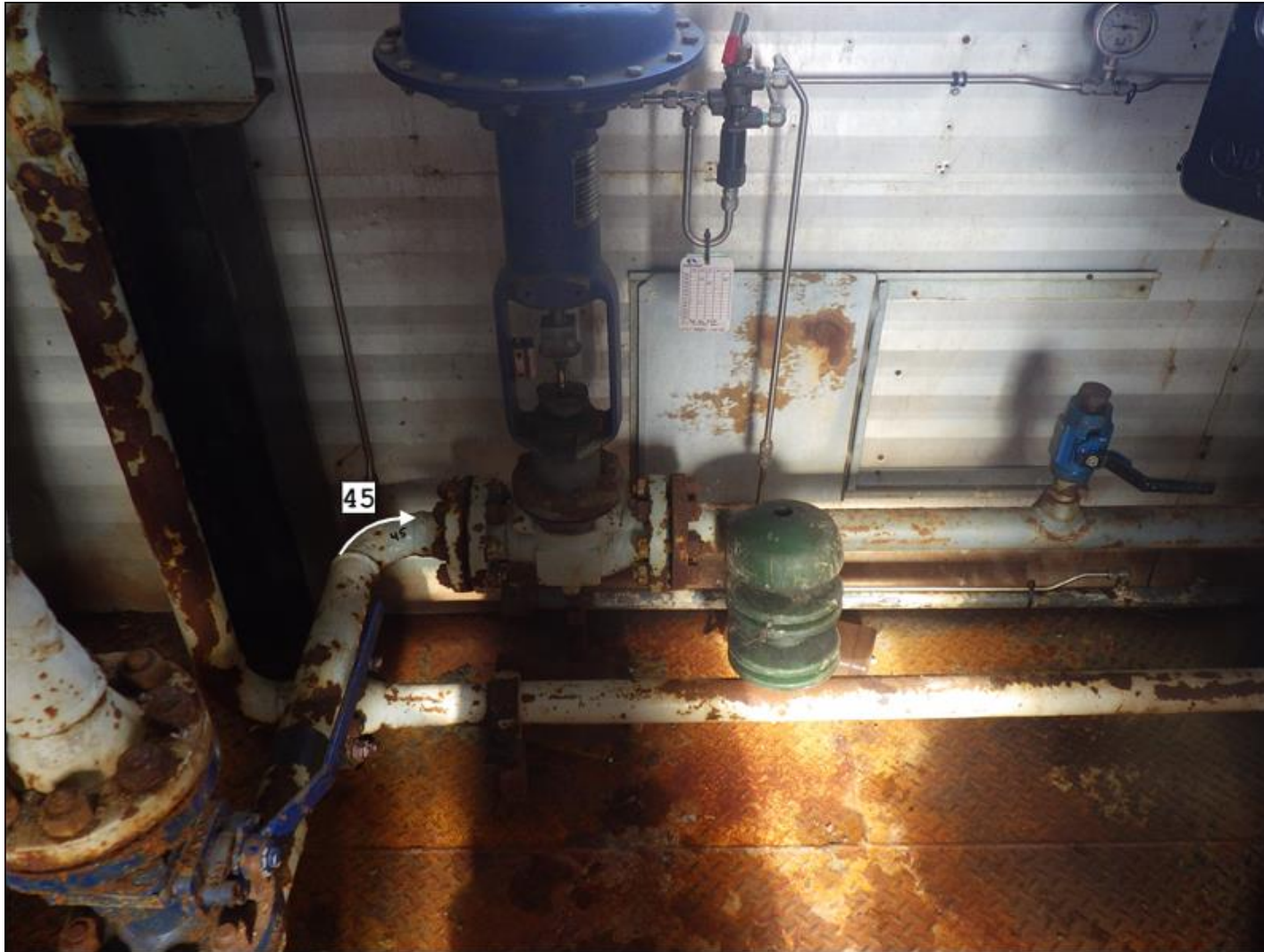
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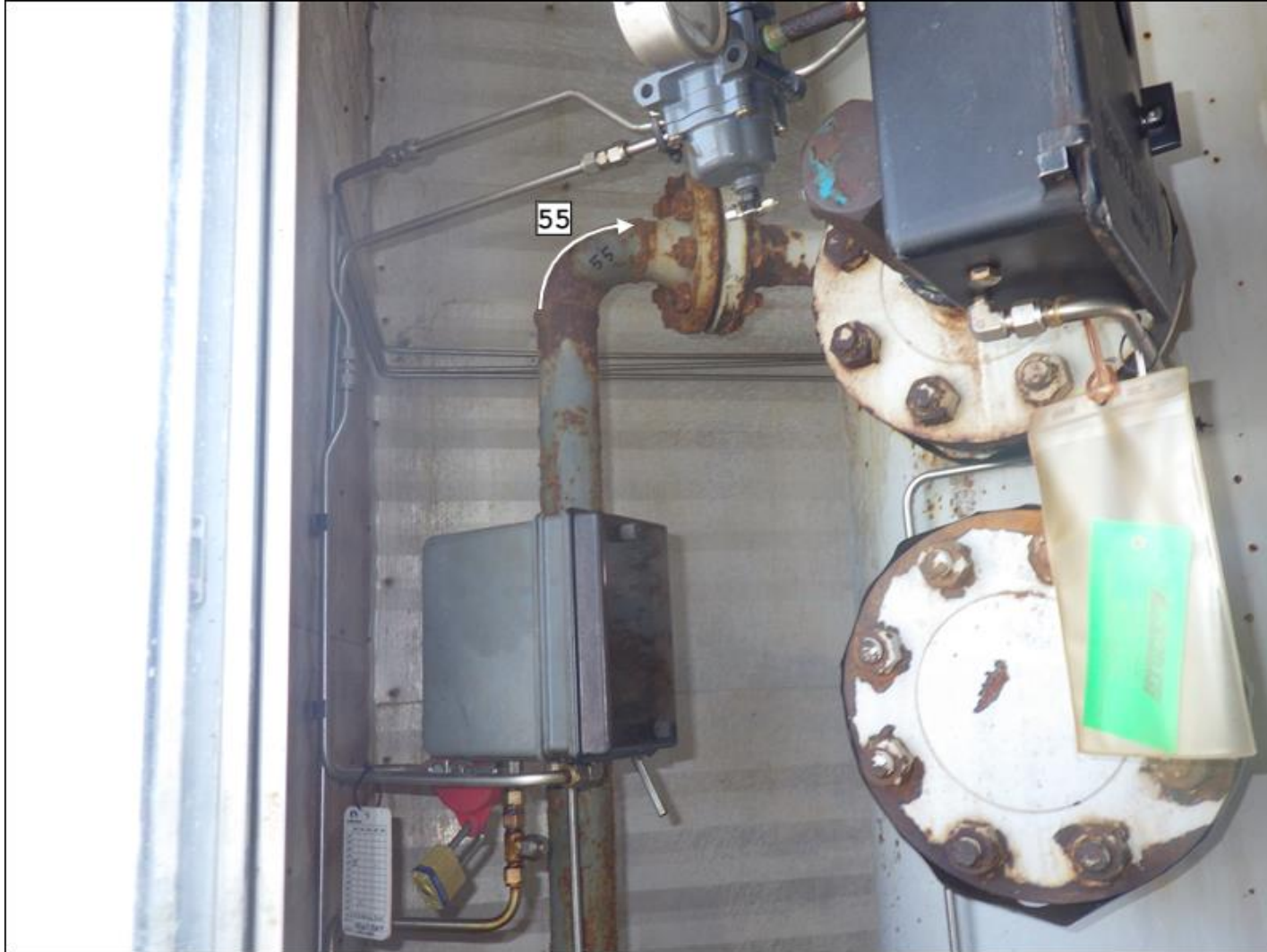
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Vessel External Inspection Report

Client:	CNRL	District:	Peejay	Date:	7-Mar-2023	
Surface LSD:	C-49-A/94-A-15	Downhole LSD:	N/A	Skid #:	N/A	
Description:	Vertical Separator		RT:	1	HT:	Yes
Jur #:	A3121025	Equipment #:	V-100	CRN:	H 7588.12	
MFR:	T&K Ironworks Ltd	MFR S/N:	94-059			
NB #:	N/A	Year Built:	1995	O.D.:	24 in	
Shell MAWP:	720 psi	Shell MAWT:	100 °F	Shell MDMT:	-20 °F	
Tube MAWP:	N/A	Tube MAWT:	N/A	Tube MDMT:	N/A	
Shell OP Pressure:	120 psi	Shell OP Temp:	76 °F	Manway (size):	N/A	
Tube OP Pressure:	N/A	Tube OP Temp:	N/A	Cor. Allowance:	N/A	
Head Type:	Ellipsoidal	Head Material:	N/A	Head Nominal:	N/A	
Shell type:	Pipe	Shell Material:	SA-516-70N	Shell Nominal:	0.750 in	
Status:	Operating	External Insulation:	No	Orientation:	Vertical	


External Inspection			SERVICE:	Sour
ITEM:	CONDITION:	ITEM:	CONDITION:	
Vessel Nameplate:	Good	Ladders / Platforms:	N/A	
Vessel Head:	Good	Gauges:	Good	
Vessel Shell:	Fair	Valves:	Good	
Vessel Paint / Coating:	Fair	Piping:	Fair	
Nozzles:	Fair	Piping Coating:	Fair	
Vessel Saddle / Skirt / Supports / Bolts:	Good	Flanges / Bolting per Code:	Good	
Insulation / Cladding:	N/A	Piping Supports:	Good	
Skid foundation / Supports:	Good	Piping Insulation:	N/A	
Anodes:	N/A	Grounding:	Good	
Instrumentation:	Good	Regulators Vented:	Good	

** Fair and Poor conditions require comment. Additional comments on page 2 as required.*

External Inspection Comments:	Vertical Separator is in fair condition. Skirt is securely bolted to skid deck - no deformation. Vessel shell paint in fair condition - blistering paint with exposed metal - pitting up to .010 inch detected. Flaking metal on bottom head - unable to obtain UT reading. All piping is well supported - no deflections - no leaks. Paint in fair condition - missing paint with exposed metal - pitting up to .010 inch. Gauges are clean and clear.
Fit for Service:	YES
	Recommend re painting vessel shell, head and associated piping.

PSV Details

PSV#:	N/A	Make/Model:	9143H111785AS	CRN:	0G2606.5C
MFR:	Mercer	MFR S/N:	27109	MFR Date:	8/94
Service Co.:	Unifed Valve	Service Tag #:	2556F	Last Service:	1/Nov/2021
Set:	720 psi	Cap:	10470 scfm	PSV Side:	Shell
Code:	NB / UV	Location:	Top head	Vented to:	Pop Tank
Cap Seal:	Intact	Nameplate:	Secure, Legible	Drainage:	Good, no concerns
Properly Supported:	Yes	External Body Condition:	Good, no concerns		
	Size:	Type:	Block Valve:	Locked / Carsealed:	
Inlet:	2.00 in	Flanged	No	N/A	
Outlet:	2.00 in	Flanged	No	N/A	
PSV Comments:	Good overall condition. Properly supported in upright position. Set at Vessel MAWP.				

Inspector:	Garett Tatton API 510 # 99450 AB IPVPP # 001342	Signature:	
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Vessel Inspection Report

Jur #:	A3121025	MFR S/N:	94-059	Equipment #:	V-100
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LSD sign



Skid overview



Vessel data plate



Vessel overview



Vessel skirt overview



Anchor bolts



Vessel Inspection Report

Jur #:	A3121025	MFR S/N:	94-059	Equipment #:	V-100
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Bottom head overview



Shell paint condition



Shell paint condition



Inlet piping overview



Gas out piping overview



Nozzle paint condition



Vessel Inspection Report

Jur #:	A3121025	MFR S/N:	94-059	Equipment #:	V-100
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Top head overview



Pressure gauge overview



Temperature gauge overview



Liquid level gauge overview



PSV overview

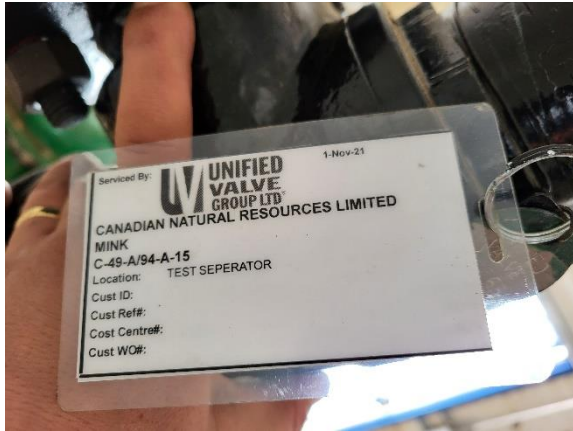


Manuf. Data plate



Vessel Inspection Report

Jur #:	A3121025	MFR S/N:	94-059	Equipment #:	V-100
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PSV service tag



PSV service tag