



**Client:**  
**CNRL**

UT SURVEY	Accept
PSV INSP	Accept
VTE INSP	Concern
VTI INSP	N/A

**EQUIPMENT DEFICIENCY SUMMARY**

District:	Fort St John	Facility	CECIL DV OIL	Location/LSD	11-23-084-18W6
Equipment Name	TEST SEPARATOR			Prov Reg No.:	2683896
Serial No.:	VS6487	Equip No.:		National Board No.:	

<b>UT SURVEY</b>	LATEST UT DATE USED IN SUMMARY		September 26, 2018					
<b>LOCATION</b>	<b>Nom - CA</b>	<b>Low RDG</b>	<b>Avg RD</b>	<b>TMin</b>	<b>UT Flag</b>	<b>RECOMMENDATION</b>	<b>QUALITY ACTION</b>	<b>RESULT</b>
N/A					No TMLs Flagged for This	N/A	N/A	Accept

<b>PSV INSPECTION</b>	LATEST PSV INSP DATE USED IN SUMMARY		September 26, 2018		
<b>DEFICIENCY</b>	<b>RECOMMENDATION</b>		<b>QUALITY ACTION</b>		<b>RESULT</b>
No Deficiencies Found	N/A		N/A		Accept

<b>VISUAL EXTERNAL INSPECTION</b>	LATEST VTE DATE USED IN SUMMARY		September 26, 2018		
<b>DEFICIENCY</b>	<b>RECOMMENDATION</b>		<b>QUALITY ACTION</b>		<b>RESULT</b>
Nuts not fully engaged					Concern

<b>VISUAL INTERNAL INSPECTION</b>	LATEST VTI DATE USED IN SUMMARY				
<b>DEFICIENCY</b>	<b>RECOMMENDATION</b>		<b>QUALITY ACTION</b>		<b>RESULT</b>
N/A	N/A		N/A		N/A



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## PRESSURE EQUIPMENT DATA REPORT

### EQUIPMENT GENERAL INFORMATION

<b>District:</b>	Fort St John		
<b>Facility:</b>	CECIL DV OIL		
<b>Location /LSD:</b>	11-23-084-18W6	<b>Operating Province:</b>	British Columbia
<b>Equipment Name:</b>	TEST SEPARATOR		
<b>Equipment Status:</b>	Operating	<b>Orientation:</b>	Vertical
<b>Skid No.:</b>	TEST SEP BLDG	<b>Unit:</b>	

### EQUIPMENT STATIC DATA

<b>AB Registration No.:</b>	2683896		<b>Serial No.:</b>	VS6487	
<b>Registration No./Other:</b>			<b>Equipment No.:</b>		
<b>CRN NO.:</b>	K3720.2		<b>Unique ID No.:</b>		
<b>National Board No.:</b>			<b>Oncor ID No.:</b>	169740	
<b>Manufacturer:</b>	Larsen & D'Amico		<b>Year Built:</b>	1991	
<b>MAWP:</b>	720.00 (psi)	4964.26 (Kpa)	<b>Temperature:</b>	100.00 (F)	37.78 (C)
<b>Diameter.:</b>	30.000 (In)	762.000 (mm)	<b>Length:</b>	96.00 (In)	2438.40 (mm)
<b>Radiography:</b>	RT4		<b>Heat Treatment:</b>	Yes	
<b>Corrosion allowance:</b>	0.125 (In)	3.175 (mm)	<b>MDMT:</b>	-20.00	
<b>Lining Or Coated:</b>			<b>Painted:</b>	Yes	
<b>Insulated:</b>	No		<b>Internally Clad:</b>		
<b>Hand Hole:</b>	Yes		<b>Support Type:</b>	Skirt	
<b>Manway:</b>	No		<b>Manway Size(In):</b>		
<b>Capacity/Volume(m3):</b>	1.14		<b>Nozzle Rating:</b>		

### MATERIALS/COMPONENTS

Name	Joint Efficiency	Outside Diameter(in.)	Head Type	Material Type	Stress Value (PSI)	Nominal Thickness(In.)
SHELL	1.00	30.000		SA-516 70	17500	0.75
HEAD	1.00	30.000	Ellipsoidal	SA-516 70	17500	0.81

### PIPING STATIC DATA

<b>Primary Flange Rating:</b>	300	<b>ASME B16.5 - Table 2-1.1 @ 150F:</b>	740 (psi)
<b>Pressure Use For TMin:</b>	Vess Design Press	<b>Piping Operating Press:</b>	720 (psi)
<b>Stress Value:</b>	20000 (psi)	<b>E Value:</b>	1.00 Joint: SMLS

### SERVICE CONDITIONS

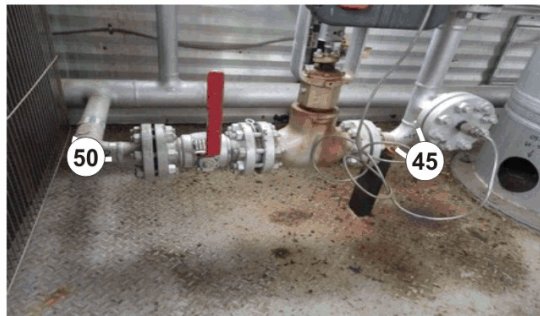
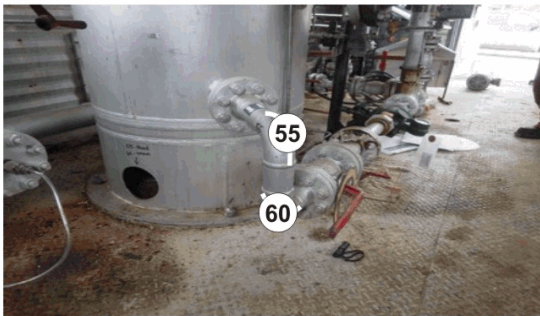
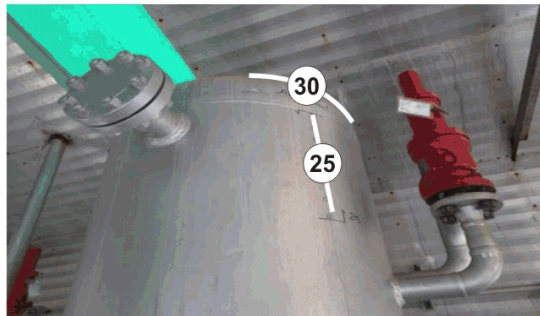
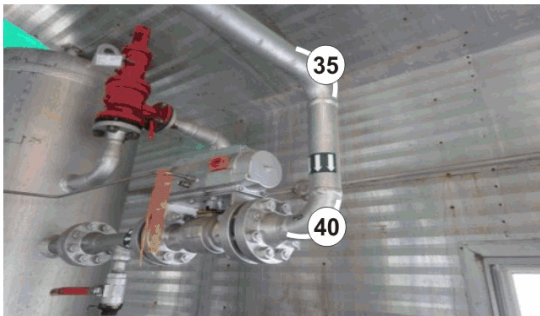
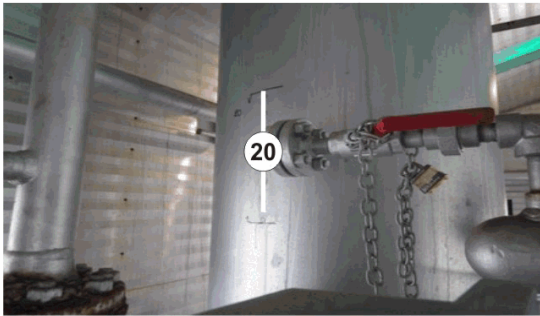
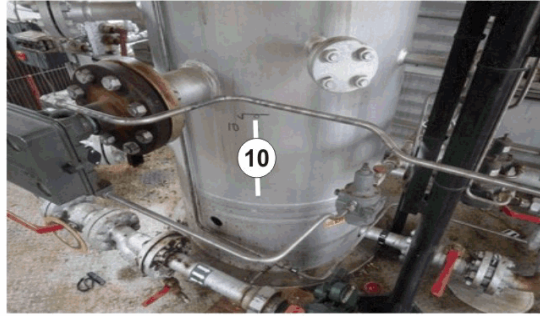
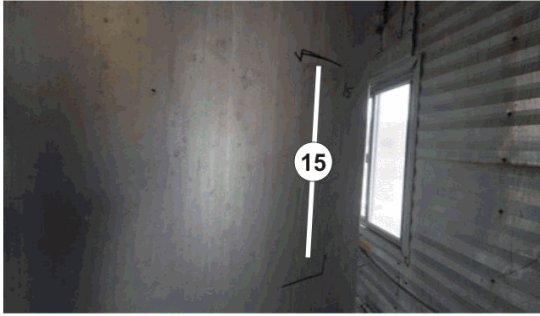
<b>Sweet</b>	<b>Sour</b>	<b>Oil</b>	<b>Gas</b>	<b>Water</b>
<b>Amine</b>	<b>LPG</b>	<b>Condensate</b>	<b>Air</b>	<b>Glycol</b>

### COMMENTS

CRN NOT SUITABLE FOR USE IN BC

### EXAMINATION ILLUSTRATION

DISTRICT:	Fort St John	FACILITY:	CECIL DV OIL	LOCATION/LSD:	11-23-084-18W6
EQUIP NAME:	TEST SEPARATOR			PROV REG No.:	2683896
SERIAL No.:	VS6487	Equip No.:		National Board No.:	



NOTES:

2683896



Client:  
**CNRL**

## ULTRASONIC CORROSION SURVEY REPORT

DISTRICT:	Fort St John	FACILITY:	CECIL DV OIL	LOCATION/LSD:	11-23-084-18W6
EQUIP NAME:	TEST SEPARATOR			PROV REG No.:	2683896
SERIAL No.:	VS6487	Equip No.:		National Board No.:	

### SUMMARY

TYPE	LAST INSPECTIONS	INSPECTION INTERVAL (YEARS)	CORROSION RATE (IN/YR)		REMAINING LIFE (YEARS)	NEXT INSPECTION DATE
			SHORT TERM	LONG TERM		
VESSEL	Sep 26, 2018	5.0	0.0000	0.0000	198.0	Sep 26, 2023
PIPING	Sep 26, 2018	5.0	0.0009	0.0009	307.6	

### VESSEL SURVEY READINGS

POINT DATA (INCH)					SURVEY READINGS				CALCULATIONS			
POINT NUMBER	TYPE	NOM.	C.A.	NOM-CA	DATE	LOW	AVG	T Req (inch)	short term corr	long term	remaining life	Flag
05	HEAD	0.8110	0.1250	0.6860	Sep 26/18	0.912	0.945	0.595	0.0000	0.0000	198.0	NO COMMENTS
10	SHELL	0.7480	0.1250	0.6230	Sep 26/18	0.766	0.785	0.607	0.0000	0.0000	198.0	NO COMMENTS
15	SHELL	0.7480	0.1250	0.6230	Sep 26/18	0.776	0.795	0.607	0.0000	0.0000	198.0	NO COMMENTS
20	SHELL	0.7480	0.1250	0.6230	Sep 26/18	0.774	0.785	0.607	0.0000	0.0000	198.0	NO COMMENTS
25	SHELL	0.7480	0.1250	0.6230	Sep 26/18	0.766	0.780	0.607	0.0000	0.0000	198.0	NO COMMENTS
30	HEAD	0.8110	0.1250	0.6860	Sep 26/18	0.915	0.940	0.595	0.0000	0.0000	198.0	NO COMMENTS

### PIPING SURVEY READINGS

POINT DATA (INCH)							SURVEY READINGS				CALCULATIONS			
POINT NUMBER	TYPE	SIZE	SCH	NOM.	Mill Tol./CA	NOM-CA	DATE	LOW	AVG	T Req (inch)	short term corr	long term corr rate	remaining life	Flag
35	90L 2 160	2.00	160	0.3440	0.0430	0.3010	Sep 26/18	0.327	0.350	0.043	0.0006	0.0006	465.4	NO COMMENTS
40	90L 2 160	2.00	160	0.3440	0.0430	0.3010	Sep 26/18	0.319	0.345	0.043	0.0009	0.0009	307.6	NO COMMENTS
45	90L 2 XS	2.00	XS	0.2180	0.0273	0.1908	Sep 26/18	0.213	0.240	0.043	0.0002	0.0002	947.7	NO COMMENTS
50	90L 2 XS	2.00	XS	0.2180	0.0273	0.1908	Sep 26/18	0.207	0.225	0.043	0.0004	0.0004	415.6	NO COMMENTS
55	90L 2 XS	2.00	XS	0.2180	0.0273	0.1908	Sep 26/18	0.208	0.230	0.043	0.0004	0.0004	459.9	NO COMMENTS
60	90L 2 XS	2.00	XS	0.2180	0.0273	0.1908	Sep 26/18	0.213	0.230	0.043	0.0002	0.0002	947.7	NO COMMENTS
65	90L 2 160	2.00	160	0.3440	0.0430	0.3010	Sep 26/18	0.322	0.335	0.043	0.0008	0.0008	353.3	NO COMMENTS

### INSPECTOR-EQUIPMENT DATA

Inspected By	Signature	CGSB Level	CGSB No.	Survey Dat	UT Equipment	Due Date OF Calibration	NDE Procedure #
Randal Longhe		1/SNT LV 2	19518	09/26/2018	101_91637903_EPOCH4+	04/15/2019	WQS UT-001



**Client:**  
**CNRL**

District	Fort St John	Facility	CECIL DV OIL	Location/LSD	11-23-084-18W6
Equipment Name:	TEST SEPARATOR			Prov Reg No.:	2683896
Serial No.:	VS6487	Equip No.:		National Board No.:	

**External Inspection**

Inspector:	Randal Longhe	ABSA PESL #93325	Signature:		Date:	09/26/2018
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**External Corrosion**

There was no significant external corrosion found on the vessel/piping

Accept

**External Damage**

There was no external corrosion found on the vessel/piping

Accept

**Leakage**

Minor leak was found on Outlet Piping Flange Thrd , details :Weeping from Connection  
 Minor leak was found on Nozzle Bolted , details :Weeping from Connection

Accept

**Vessel and Piping Supports**

Vessel support is Skirt and is acceptable  
 Vessel support anchor bolts are in place and acceptable  
 Vessel Foundation is Metal and is acceptable  
 Piping is supported by clamp and is acceptable

Accept

Accept

Accept

Accept

**Insulation/Paint**

	Type	Findings	
Vessel	Painted	Accept	Accept
Inlet Piping	Painted	Accept	Accept
Outlet Piping	Painted	Accept	Accept

**Pressure Envelope Flanging**

	Bolting	Thread engagement	Gaskets	Flange Rating	
Manway	NA				Accept
Vessel	NA				Accept
Inlet Piping	Accept	Accept	Accept	Accept	Accept
Outlet Piping	Accept	Nuts not fully engaged	Accept	Accept	Concern
Other Piping	Accept	Accept	Accept	Accept	Accept

SHORTBOLTED CONNECTION ON LIQUID OUTLET FLANGE

**General**

Pressure Gauge is acceptable, Temp Gauge is acceptable, Level Gauge is acceptable, Grounding is acceptable,

Accept

**Comment**

SHORTBOLTED CONNECTION ON LIQUID OUTLET FLANGE



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### PRESSURE RELIEF VALVE SUMMARY

<b>District:</b>	Fort St John	<b>Facility:</b>	CECIL DV OIL	<b>Location/LSD:</b>	11-23-084-18W6
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#### PSV STATIC DATA

<b>Tag/Equip No.:</b>	24675F	<b>Serial No.:</b>	CE-34088-A10
<b>Manufacturer:</b>	FARRIS	<b>CRN No.:</b>	0400.123456780T
<b>Model No.:</b>	26FA12-120/S7/S	<b>Code Stamp:</b>	
<b>Side (Shell or Tube):</b>	Shell	<b>Outlet Size:</b>	2
<b>Inlet Size:</b>	1.5	<b>Outlet Type / ANSI Rating:</b>	Flanged / 150
<b>Inlet Type / ANSI Rating</b>	Flanged / 300		

#### PSV SERVICE DATA

<b>Set Date:</b>	23 Oct, 2013	<b>Service Interval:</b>	60
<b>Set Pressure (psig)</b>	720	<b>Capacity (scfm):</b>	4701
<b>Service Company:</b>	UNIFIED VALVE	<b>Next Service Date:</b>	23 Oct, 2018

#### PSV FIELD INSPECTION

**Inspector** Randal Longhe    **Company** Western Quality Services    **Signature:**     **Inspection Date:** 26-Sep-2018

**Inspection Type:**

<b>RESTRICTIONS</b>	<b>BLINDS</b>	INLET:	No Blinds found btwn vessels and psv inlet	Accept
		OUTLET:	No blinds found btwn PSV and discharge point	Accept
	<b>REDUCERS</b>	INLET:	No reducers found btwn Vessel(s) and PSV Inlet	Accept
		OUTLET:	No reducers found btwn PSV and Discharge Point	Accept
	<b>BLOCK VALVES</b>	INLET:	No block valve	Accept
		OUTLET:	No block valve	Accept
<b>SERVICING</b>	<b>SET PRESSURE</b>	PSV set pressure is at or less than MAWP of all linked vessels in the system.		Accept
	<b>SERVICE DATE</b>	PSV set date is current at time of inspection		Accept
	<b>SERVICE SEAL</b>	Service seal is intact		Accept
<b>OPERATION</b>	<b>TAGGING</b>	Service tag is properly attached to the psv		Accept
	<b>VIBRATION</b>	None		Accept
	<b>DISCHARGE</b>	PSV Discharge point is in a safe location and is acceptable		Accept
	<b>LEAKS</b>	INLET:	No visible leaks found at psv inlet connection	
OUTLET:		No visible leaks found at psv outlet connection		Accept
<b>INSTALLATION</b>	<b>PSV SUPPORTS</b>	PSV supported		Accept
	<b>ANGLE</b>	PSV is installed in the proper upright positon		Accept

#### EQUIPMENT PROTECTED

Prov Reg No.	Equipment No.	Serial No.	Equipment Name	Status	MAWP
2683896		VS6487	TEST SEPARATOR	Operating	720.00



**PHOTOGRAPHS**



LSD



NAMEPLATE

**PHOTOGRAPHS**



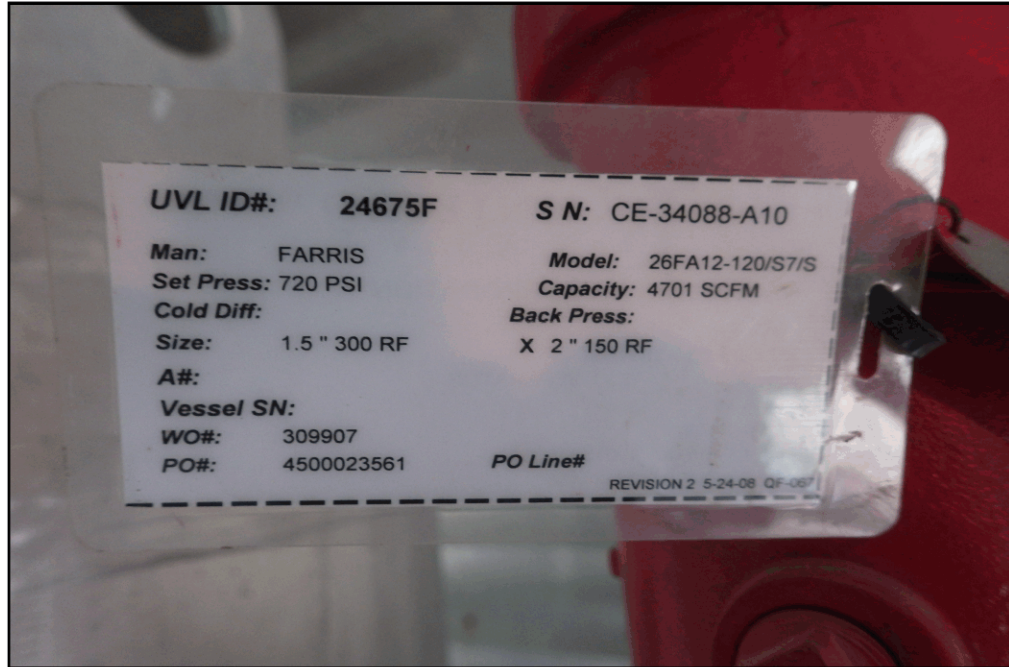
OVERALL



PSV



**PHOTOGRAPHS**

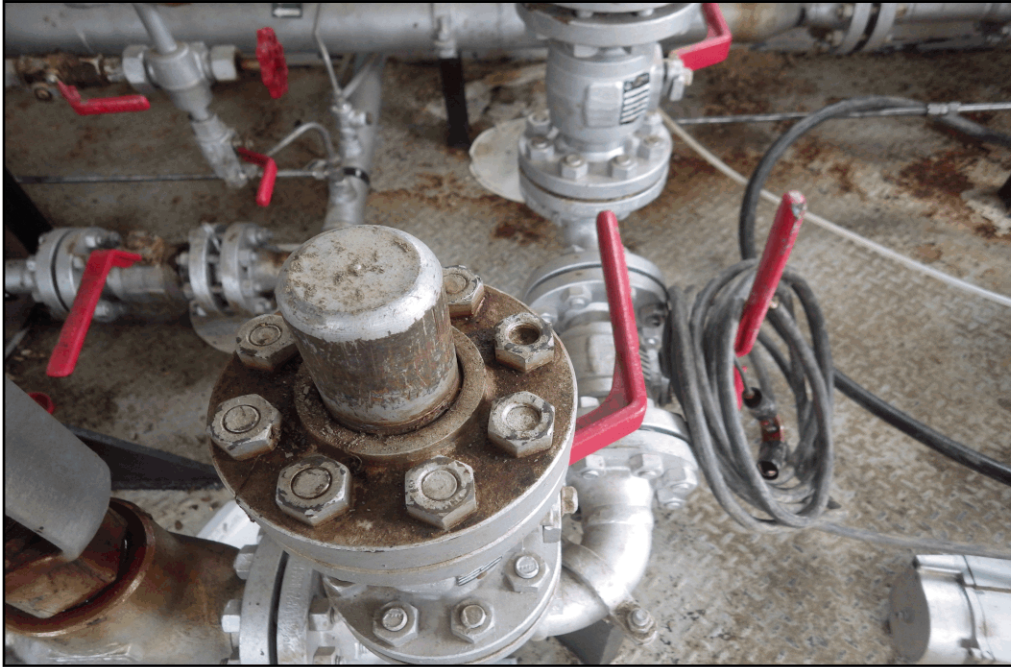


PSV TAG



LEAKS

**PHOTOGRAPHS**



SHORT BOLT ON FLANGE



SHORT BOLT ON PSV