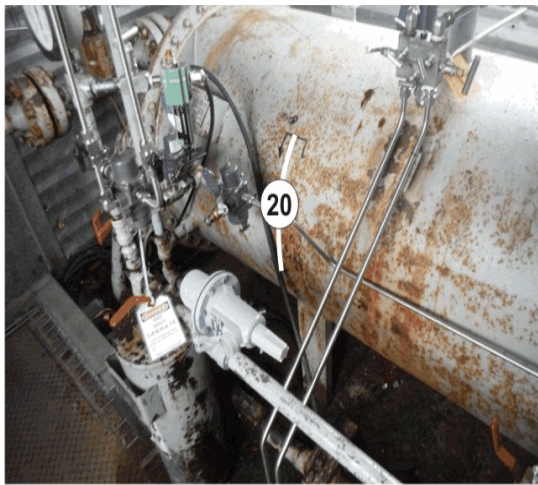
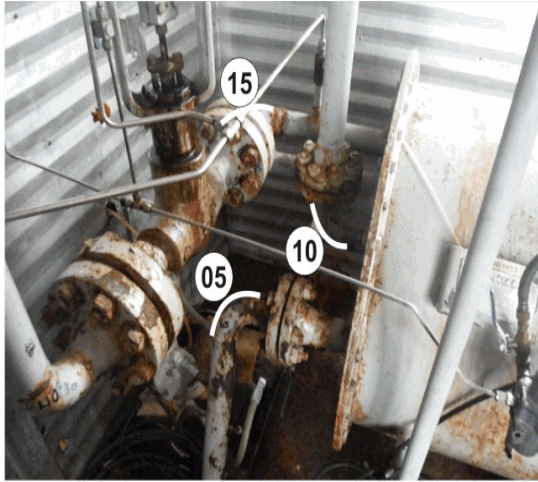


# Equipment Inventory

## Western Quality Services

<u>District</u>	<u>Facility</u>	<u>Provincial No.</u>	<u>Type</u>	<u>EquipName</u>	<u>Location</u>	<u>Inspection Interval</u>	<u>Next Inspection</u>	<u>FlagComm</u>
St. Albert - North	PEMBINA	0199003	Pressure Vessel	LINE HEATER	11-24-050-07W5	0	Apr 25/14	Reading below TMin

GENERAL PRESSURE VESSEL INFORMATION						
District: St. Albert - North			Skid No.:			
Facility: PEMBINA			Location (LSD): 11-24-050-07W5			
Name & Equip No: LINE HEATER			Orientation: Horizontal			
Company: CNRL			Cost Code:			
Status: Operating			Operating Province: Alberta			
Unit:			W.O/P.O No.:			
Registration Number: 0199003			Registration Number (Other):			
Serial Number: PEJ1132			CRN Number: E2579.2			
National Board:			Unique ID:		ONCOR ID: 153684	
PRESSURE VESSEL NAMEPLATE DATA						
Internal Clad:		Painted: Yes		Hand Hole:		
Insulated: No				Support Type Saddle		
Capacity: M3				MDMT: (F) 0.00 (C)		
MAWP: 1,400.00 (psi)		9652.72 (Kpa)		AT temperature: 150.00 (F) 65.56 (C)		
Size (diam. x length): 30.00 x 112.00(In)		762.00 x 844.80(mm)		Manufacturer: DACRO		
X-Ray: None		Lining Or Coated:				
Year Built: 1981		Heat Treatment:				
Code parameters:		Corrosion allowance: (In) 0.00 (mm)				
Nozzle Rating: lb ANSI		Manway: Yes		Manway Size: (In)		
PIPING NAMEPLATE DATA						
Primary Flange Rating: 1500		ASME B16.5 - Table 2-1.1 @ 150F: 3705 (psi)				
Pressure Use For TMin: Vess Design Press		Piping Operating Press: 1400 (psi)				
Stress Value: 20000 (psi)		E Value: 1				
Comments:						
SERVICE CONDITIONS-INDICATE ALL THAT APPLY						
Sweet	Sour		Oil		Gas	Water
Amine	LPG		Condensate		Air	Glycol
Other (Describe):						
COMPONENTS						
Name	Joint Efficiency	Outside Diameter(in.)	Head Type	Material Type	Stress Value (PSI)	Nominal Thickness(Inch)
SHELL	1.00	30.00		Unknown	15000	
HEAD	1.00	30.00	Flat	Unknown	15000	
GENERAL COMMENTS						



NOTES:

A#0199003

## ULTRASONIC CORROSION SURVEY REPORT

EQUIP NAME: LINE HEATER	SERIAL #: PEJ1132	DISTRICT: St. Albert - North
PROV REG: 0199003	CRN: E2579.2	FACILITY: PEMBINA
EQUIP #:		LSD: 11-24-050-07W5

### SUMMARY


TYPE	LAST INSPECTION	INSPECTION INTERVAL (YEARS)	CORROSION RATE (IN/YR)		REMAINING LIFE (YEARS)	NEXT INSPECTION DATE
			SHORT TERM	LONG TERM		
VESSEL	Apr 25, 2014	0.0	0.0000	0.0000	0.0	Apr 25, 2014
PIPING	Apr 25, 2014	0.0	0.0009	0.0009	56.6	

### VESSEL SURVEY READINGS

POINT NUMBER	TYPE	POINT DATA (INCH)			DATE	SURVEY READINGS			CALCULATIONS			Flag
		NOM.	C.A.	NOM-CA		LOW	AVG	T Req (inch)	short term corr rate	long term corr rate	remaining life	
20	SHELL	0.0000	0.0000	0.0000	Apr 25/14	0.257	0.265	1.350	0.0000	0.0000	0.0	LOW RDG IS MORE THAN 10% BELOW Tmin
25	SHELL	0.0000	0.0000	0.0000	Apr 25/14	0.247	0.250	1.350	0.0000	0.0000	0.0	LOW RDG IS MORE THAN 10% BELOW Tmin

### PIPING SURVEY READINGS

POINT NUMBER	TYPE	POINT DATA (INCH)			DATE	SURVEY READINGS			CALCULATIONS			Flag
		NOM.	Mill Tol./CA	NOM-CA		LOW	AVG	T Req (inch)	short term corr rate	long term corr rate	remaining life	
05	90L 2 STD	0.1540	0.0193	0.1347	Apr 25/14	0.127	0.150	0.083	0.0008	0.0008	56.6	NO COMMENTS
10	90L 2 STD	0.1540	0.0193	0.1347	Apr 25/14	0.136	0.150	0.083	0.0005	0.0005	102.3	NO COMMENTS
15	90L 2 XS	0.2180	0.0273	0.1907	Apr 25/14	0.187	0.200	0.083	0.0009	0.0009	116.7	NO COMMENTS

Inspected By	Signature	CGSB Level	CGSB	Survey Date	UT Equip	Due Date OF Calibration
Gordon Derewianko		1	13896	04/25/2014	101_91637903_EPOCH4+	06/27/2014

<b>Provincial/Identification No:</b>	0199003	<b>Equip. Number:</b>		<b>Serial Number:</b>	PEJ1132
<b>District:</b>	St. Albert - North	<b>Facility:</b>	PEMBINA		
<b>Location:</b>	11-24-050-07W5	<b>Equip. Name:</b>	LINE HEATER		

<b>Inspected By:</b>	Duncan Kendrick #0787	<b>Inspection Date:</b>	Apr 25, 2014
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External Inspection Items	Condition	Comments
Insulation Verify sealed around manways, nozzels, no damage present, and these is no egress of moisture	Accept	ONLY OUTSIDE AND IN GOOD CONDITION
External Condition Assesses paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	Accept	IN GOOD CONDITION MINOR SURFACE RUST OCCURING
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc	N/A	
Skirt/Saddle Assess condition of paint, fire protection concrete. Look for corrosion, buckling, dents, etc. Look at vessel surface area near supports. Verify no signs of leakage at attachment to vessel and attachment welds are acceptable. Ground wire attached?	Accept	IN GOOD CONDITION
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation	Accept	IN GOOD CONDITION
Concrete Foundation Check for cracks, spalling, etc.	N/A	METAL
Ladder/Platform Describe general condition, ensure support is secure to vessel, describe any hazards.	N/A	
Nozzle Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted?	Accept	IN GOOD CONDITION
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/Temp.	Accept	IN GOOD WORKING CONDITION
External Piping Ensure pipe is well supported. All clamps, supports, shoes, etc. in place. Look for evidence of structural overload, deflection, etc. Paint condition, external corrosion?	Accept	IN GOOD CONDITION MINOR SURFACE CORROSION OCCURING
Valving Ensure no leaks are visible. Valves are properly, supported and chained if necessary.	Accept	IN GOOD WORKING CONDITION
PSV Ensure PSV is set at pressure at or below that of vessel. Discharge piping is same size as inlet to valve and is properly supported and routed. Ensure no block valves between psv and vessel or if there are the are locked open.	Accept	SERVICED IN 2013 SERVICE SEAL IS GOOD
NDE Methods Was UT/MPI done on vessel (MI coordinator to review results)	Accept	UT/VE 2013
Other	N/A	

**Recommendations or corrective actions: (Vessel is Fit for Service or describe corrective actions required)**  
VESSEL IS FIT FOR SERVICE

<b>Chief</b>	Eric Jensen	<b>ABSA PESL #:</b>	000239	<b>Sign Off Date:</b>	Jun 4, 2014	<b>Status:</b>	Accepted
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# Pressure Safety Valve Summary

## PSV Static Data

Client:	CNRL	Facility:	PEMBINA
District:	St. Albert - North	PSV Number:	
Location:	11-24-050-07W5	Serial Number:	14600-39
Description:		Manufacturer:	TAYLOR
CRN:	OG1316.2C	Code Stamp:	
Model:	T-8200-1	Outlet Size:	1
Inlet Size:	1		
Side (Shell or Tube):	Shell		

## PSV Service/Inspection

Set Date:	1 Sep, 2013	Service Interval:	60
Set Pressure (psig):	500	Capacity (scfm):	1830
Service Sealed Intact:			
Block Valve Inlet:		Block Valve Inlet Locked Open:	
Block Valve Outlet:		Block Valve Outlet Locked Open:	
Service Company:		Ref Number:	
Condition:		Prepopped Results:	
Service Type:		Installed Date:	
Next Service Date:	1 Sep, 2018		
Comments:			

## Equipment Protected

<u>Req #</u>	<u>Equip #</u>	<u>Type</u>	<u>Name</u>	<u>Status</u>	<u>MAWP</u>
0176488		Pressure Vessel	SEPARATOR	Operating	500.00
0199003		Pressure Vessel	LINE HEATER	Operating	1400.00

## PSV Summary

PSV passes all summary checks.
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# Pressure Safety Valve Summary

## PSV Static Data

Client:	CNRL	Facility:	PEMBINA
District:	St. Albert - North	PSV Number:	
Location:	11-24-050-07W5	Serial Number:	14835-46
Description:		Manufacturer:	TAYLOR
CRN:	OG1316.2C	Code Stamp:	
Model:	T-8200-1	Outlet Size:	1
Inlet Size:	1		
Side (Shell or Tube):	Shell		

## PSV Service/Inspection

Set Date:	1 Sep, 2013	Service Interval:	60
Set Pressure (psig):	100	Capacity (scfm):	403
Service Sealed Intact:			
Block Valve Inlet:		Block Valve Inlet Locked Open:	
Block Valve Outlet:		Block Valve Outlet Locked Open:	
Service Company:	D.V.METER	Ref Number:	
Condition:		Prepopped Results:	
Service Type:		Installed Date:	
Next Service Date:	1 Sep, 2018		
Comments:			

## Equipment Protected

<u>Req #</u>	<u>Equip #</u>	<u>Type</u>	<u>Name</u>	<u>Status</u>	<u>MAWP</u>
		Pressure Vessel	FUEL GAS SCRUBBER	Operating	100.00
0199003		Pressure Vessel	LINE HEATER	Operating	1400.00

## PSV Summary

PSV passes all summary checks.
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