



Client:
CNRL

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

EQUIPMENT DEFICIENCY SUMMARY

District:	Medicine Hat	Facility	Warner	Location/LSD	02-30-007-16W4
Equipment Name	SEPARATOR			Prov Reg No.:	2875921
Serial No.:	BW75-001	Equip No.:	66068659	National Board No.:	

UT SURVEY		LATEST UT DATE USED IN SUMMARY				June 20, 2018			
LOCATION	Nom - CA	Low RDG	Avg RD	TMin	UT Flag	RECOMMENDATION	QUALITY ACTION	RESULT	
45 90L 2 STD	0.13	0.09	0.16	0.04	LOW RDG < NOM-CA BY MORE THAN 20%	CONSIDER REDUCING THE INSPECTION INTERVAL.	OWNER TO DETERMINE	Reject	

PSV INSPECTION		LATEST PSV INSP DATE USED IN SUMMARY				June 20, 2018			
DEFICIENCY	RECOMMENDATION					QUALITY ACTION	RESULT		
Inlet & Outlet Block valves are not locked open	LOCK OR CARSEAL THE VALVE IN THE OPEN POSITION AND TAG LOCK/CARSEAL					NCR	Reject		

VISUAL EXTERNAL INSPECTION		LATEST VTE DATE USED IN SUMMARY				June 20, 2018			
DEFICIENCY	RECOMMENDATION					QUALITY ACTION	RESULT		
Vessel support anchor bolts Missing	PERFORM A REVIEW OF THE SUPPORTS FOR THIS VESSEL/PIPING					NONE	Concern		
Flanging Other piping AcceptNuts not fully engagedAcceptAccept							Concern		
Grounding: No Grounding is Concern,	NCR					CAR	Concern		

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



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PRESSURE EQUIPMENT DATA REPORT

EQUIPMENT GENERAL INFORMATION

District:	Medicine Hat		
Facility:	Warner		
Location /LSD:	02-30-007-16W4	Operating Province:	Alberta
Equipment Name:	SEPARATOR		
Equipment Status:	Operating	Orientation:	Horizontal
Skid No.:	Unit:		

EQUIPMENT STATIC DATA

AB Registration No.:	2875921		Serial No.:	BW75-001	
Registration No./Other:			Equipment No.:	66068659	
CRN NO.:	M1438.2		Unique ID No.:		
National Board No.:			Oncor ID No.:	168473	
Manufacturer:	UNKNOWN		Year Built:	1993	
MAWP:	675.00 (psi)	4653.99 (Kpa)	Temperature:	200.00 (F)	93.33 (C)
Diameter.:	48.000 (In)	1219.20 (mm)	Length:	144.00 (In)	3657.60 (mm)
Radiography:	RT1		Heat Treatment:		
Corrosion allowance:	(In)	0.000 (mm)	MDMT:	-20.00	
Lining Or Coated:			Painted:	Yes	
Insulated:	No		Internally Clad:	No	
Hand Hole:	No		Support Type:	Saddle	
Manway:	Yes		Manway Size(In):	24.00	
Capacity/Volume(m3):			Nozzle Rating:	300.00	

MATERIALS/COMPONENTS

Name	Joint Efficiency	Outside Diameter(in.)	Head Type	Material Type	Stress Value (PSI)	Nominal Thickness(In.)
SHELL	1.00	48.000		SA-516 70	17500	1.00
HEAD	1.00	48.000	Ellipsoidal	SA-516 70	17500	1.00
SHELL BT	1.00	14.000		Unknown	17500	
HEAD BT	1.00	14.000	Ellipsoidal	Unknown	17500	

PIPING STATIC DATA

Primary Flange Rating:	300	ASME B16.5 - Table 2-1.1 @ 150F:	740 (psi)
Pressure Use For TMin:	Vess Design Press	Piping Operating Press:	675 (psi)
Stress Value:	20000 (psi)	E Value:	1.00 Joint: SMLS

SERVICE CONDITIONS

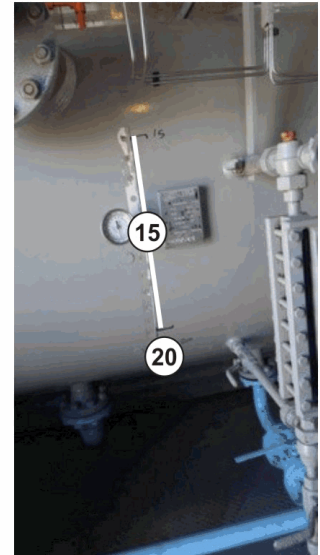
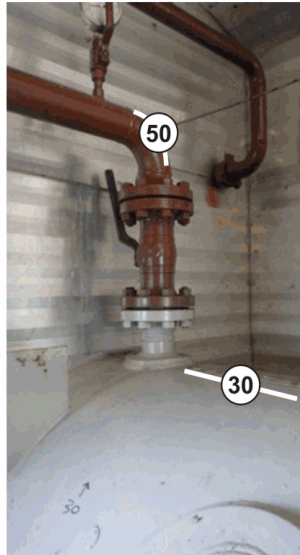
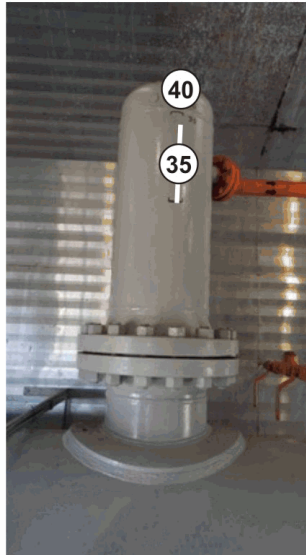
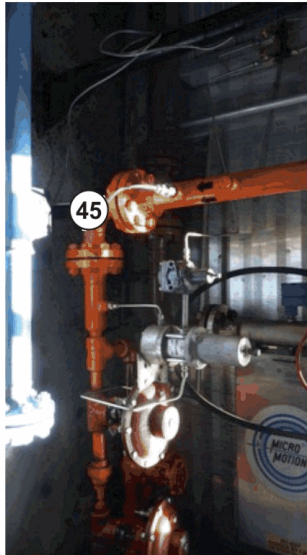
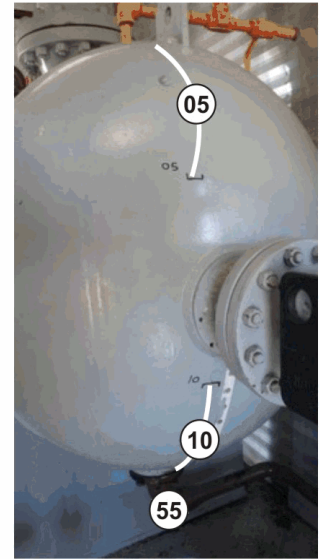
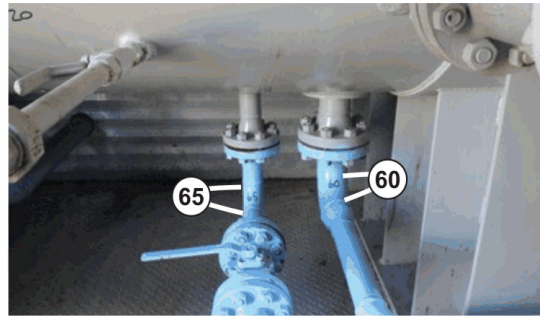
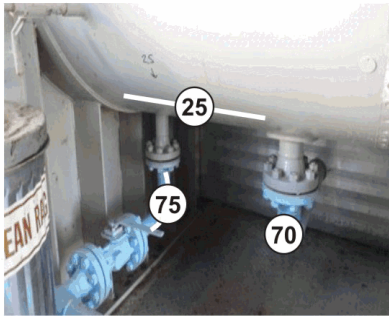
Sweet	Sour	Oil	Gas	Water
Amine	LPG	Condensate	Air	Glycol

COMMENTS

NAMEPLATE INFORMATION LIMITED, SEE PICTURES

EXAMINATION ILLUSTRATION

DISTRICT:	Medicine Hat	FACILITY:	Warner	LOCATION/LSD:	02-30-007-16W4
EQUIP NAME:	SEPARATOR			PROV REG No.:	2875921
SERIAL No.:	BW75-001	Equip No.:	66068659	National Board No.:	



NOTES:

2875921



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ULTRASONIC CORROSION SURVEY REPORT

DISTRICT:	Medicine Hat	FACILITY:	Warner	LOCATION/LSD:	02-30-007-16W4
EQUIP NAME:	SEPARATOR			PROV REG No.:	2875921
SERIAL No.:	BW75-001	Equip No.:	66068659	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	Jun 20, 2018	5.0	0.0000	0.0000	198.0	Jun 20, 2023
PIPING	Jun 20, 2018	5.0	0.0027	0.0027	16.8	

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	long term	remaining life		
05	HEAD	1.0000	0.0000	1.0000	Jun 20/18	1.013	1.040	0.895	0.0000	0.0000	198.0	NO COMMENTS	
10	HEAD	1.0000	0.0000	1.0000	Jun 20/18	1.013	1.040	0.895	0.0000	0.0000	198.0	NO COMMENTS	
15	SHELL	1.0000	0.0000	1.0000	Jun 20/18	1.035	1.045	0.912	0.0000	0.0000	198.0	NO COMMENTS	
20	SHELL	1.0000	0.0000	1.0000	Jun 20/18	1.031	1.035	0.912	0.0000	0.0000	198.0	NO COMMENTS	
25	SHELL	1.0000	0.0000	1.0000	Jun 20/18	1.035	1.045	0.912	0.0000	0.0000	198.0	NO COMMENTS	
30	SHELL	1.0000	0.0000	1.0000	Jun 20/18	1.047	1.055	0.912	0.0000	0.0000	198.0	NO COMMENTS	
35	SHELL BT	0.0000	0.0000	0.0000	Jun 20/18	0.448	0.470	0.266	0.0000	0.0000	198.0	NO COMMENTS	
40	HEAD BT	0.0000	0.0000	0.0000	Jun 20/18	0.464	0.490	0.261	0.0000	0.0000	198.0	NO COMMENTS	

PIPING SURVEY READINGS

POINT NUMBER	TYPE	SIZE	SCH	POINT DATA (INCH)			DATE	SURVEY READINGS			CALCULATIONS			Flag
				NOM.	Mill Tol./CA	NOM-CA		LOW	AVG	T Req (inch)	short term corr	long term corr rate	remaining life	
45	90L 2 STD	2.00	STD	0.1540	0.0193	0.1348	Jun 20/18	0.085	0.160	0.040	0.0027	0.0027	16.8	LOW RDG < NOM-CA BY MORE THAN 20%
Comments: PITTING OBSERVED AT BOTTOM OF 90 (6 O'CLOCK POSITION)														
50	90L 3 STD	3.00	STD	0.2160	0.0270	0.1890	Jun 20/18	0.208	0.220	0.059	0.0003	0.0003	479.4	NO COMMENTS
55	90L 3 STD	3.00	STD	0.2160	0.0270	0.1890	Jun 20/18	0.207	0.230	0.059	0.0003	0.0003	423.3	NO COMMENTS
60	90L 3 STD	3.00	STD	0.2160	0.0270	0.1890	Jun 20/18	0.224	0.240	0.059	0.0000	0.0000	198.0	NO COMMENTS
65	90L 2 40	2.00	40	0.1540	0.0193	0.1348	Jun 20/18	0.148	0.160	0.040	0.0002	0.0002	463.2	NO COMMENTS
70	90L 3 STD	3.00	STD	0.2160	0.0270	0.1890	Jun 20/18	0.174	0.200	0.059	0.0016	0.0016	70.5	NO COMMENTS
75	90L 2 STD	2.00	STD	0.1540	0.0193	0.1348	Jun 20/18	0.122	0.130	0.040	0.0012	0.0012	65.9	NO COMMENTS

INSPECTOR-EQUIPMENT DATA


Inspected By	Signature	CGSB Level	CGSB No.	Survey Dat	UT Equipment	Due Date OF Calibration	NDE Procedure #
Codey Chmilar		SNT LV 2	20906	06/20/2018	109_81583903_EPOCH 4	04/22/2019	WQS UT-001



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District	Medicine Hat	Facility	Warner	Location/LSD	02-30-007-16W4
Equipment Name:	SEPARATOR			Prov Reg No.:	2875921
Serial No.:	BW75-001	Equip No.:	66068659	National Board No.:	

External Inspection

Inspector:	Codey Chmilar	API510#:73856	Signature:		Date:	06/20/2018
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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

No Leaks were found on the vessel or piping connections

Accept

Vessel and Piping Supports

Vessel support is Saddle and is acceptable

Accept

Vessel support anchor bolts Missing

Concern

Vessel Foundation is Metal and is acceptable

Accept

Piping does not have additional supports but is supported by connected piping and is acceptable

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	Accept	Accept	Accept	Accept	Accept
Vessel	Accept	Accept	Accept	Accept	Accept
Inlet Piping	Accept	Accept	Accept	Accept	Accept
Outlet Piping	Accept	Accept	Accept	Accept	Accept
Other Piping	Accept	Nuts not fully engaged	Accept	Accept	Concern

PSV INLET FLANGE HAS NUT NOT FULLY ENGAGED (MORE THAN 2 THREADS). SEE PICTURES

General

Pressure Gauge is acceptable, Temp Gauge is acceptable, Level Gauge is acceptable, Vibration is acceptable, Davit is acceptable,

Accept

Grounding: No Grounding is Concern,

Concern

Comment

PSV HAS INLET AND OUTLET BLOCK VALVES NOT LOCKED OPEN. VALVES HAVE SEALS ATTACHED, BUT SEALS DO NOT PREVENT VALVES FROM BEING CLOSED. UT LOW RDG IS NEARLY 50% OF NOMINAL AND WILL REQUIRE CLOSE MONITORING.



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PRESSURE RELIEF VALVE SUMMARY

District:	Medicine Hat	Facility:	Warner	Location/LSD:	02-30-007-16W4
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PSV STATIC DATA

Tag/Equip No.:	PSV-100	Serial No.:	CE-39196-A10
Manufacturer:	FARRIS	CRN No.:	0G2369.5C
Model No.:	26DA12-120/S6	Code Stamp:	
Side (Shell or Tube):	Shell	Outlet Size:	2
Inlet Size:	1	Outlet Type / ANSI Rating:	Flanged / 150
Inlet Type / ANSI Rating	Flanged / 300		

PSV SERVICE DATA

Set Date:	1 Mar, 2016	Service Interval:	60
Set Pressure (psig)	675	Capacity (scfm):	1786
Service Company:	TARPON	Next Service Date:	1 Mar, 2021

PSV FIELD INSPECTION

Inspector Codey Chmilar **Company** Western Quality Services **Signature:**  **Inspection Date:** 20-Jun-2018

Inspection Type:

RESTRICTIONS	BLINDS	INLET:	No Blinds found btwn vessels and psv inlet	Accept
		OUTLET:	No blinds found btwn PSV and discharge point	Accept
	REDUCERS	INLET:	No reducers found btwn Vessel(s) and PSV Inlet	Accept
		OUTLET:	No reducers found btwn PSV and Discharge Point	Accept
	BLOCK VALVES	INLET:	Inlet Block valve is not locked open	Reject
		OUTLET:	Outlet Block valve is not locked open	Reject
SERVICING	SET PRESSURE	PSV set pressure is at or less than MAWP of all linked vessels in the system.		Accept
	SERVICE DATE	PSV set date is current at time of inspection		Accept
	SERVICE SEAL	Service seal is intact		Accept
OPERATION	TAGGING	Service tag is properly attached to the psv		Accept
	VIBRATION	None		Accept
	DISCHARGE	PSV Discharge point is in a safe location and is acceptable		Accept
	LEAKS	INLET:	No visible leaks found at psv inlet connection	
OUTLET:		No visible leaks found at psv outlet connection		Accept
INSTALLATION	PSV SUPPORTS	PSV supported		Accept
	ANGLE	PSV is installed in the proper upright positon		Accept

EQUIPMENT PROTECTED

Prov Reg No.	Equipment No.	Serial No.	Equipment Name	Status	MAWP
2875921	66068659	BW75-001	SEPARATOR	Operating	675.00

PHOTOGRAPHS



LSD



NAMEPLATE

PHOTOGRAPHS



OVERALL

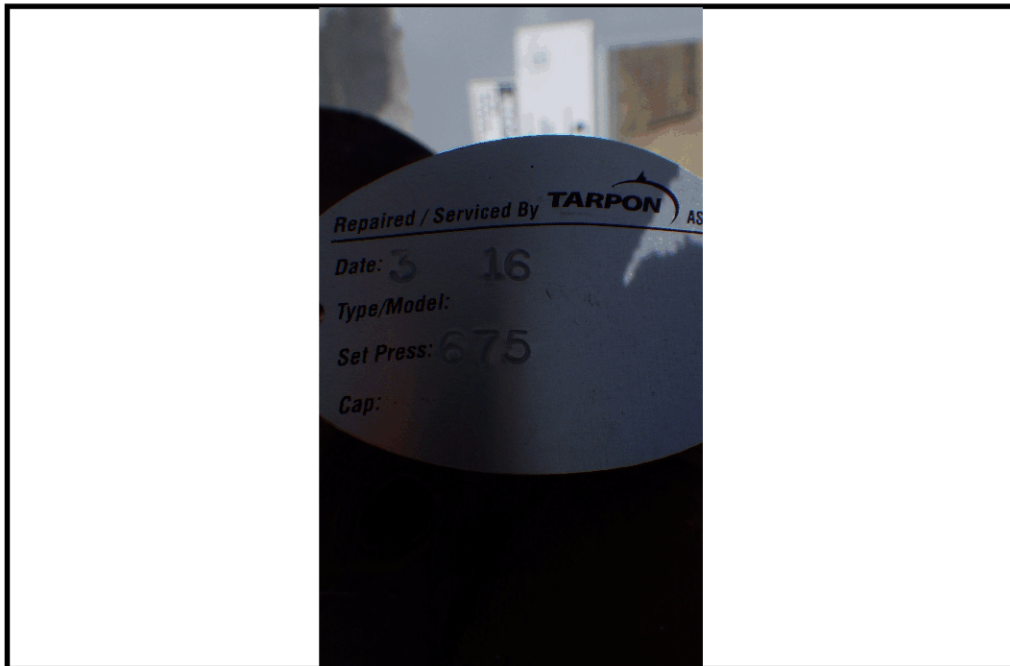


PSV

PHOTOGRAPHS



PSV NAMEPLATE



PSV TAG

PHOTOGRAPHS



INLET SEAL



OUTLET SEAL

PHOTOGRAPHS



SEALS NOT LOCKING VALVE



THREADS NOT ENGAGED

PHOTOGRAPHS



ANCHOR BOLTING MISSING