

EQUIPMENT DEFICIENCY SUMMARY

District:	Medicine Hat	Facility	Grand Forks East	Location/LSD	04-01-013-13W4
Equipment Name	FREE WATER KNOCK OUT			Prov Reg No.:	0161444
Serial No.:	LM-1671	Equip No.:	N/S	National Board No.:	N/S

UT SURVEY LATEST UT DATE USED IN SUMMARY March 30, 2016

LOCATION	Nom - CA	Low RDG	Avg RD	TMin	UT Flag	RECOMMENDATION	QUALITY ACTION	RESULT
65 90L 3 80	0.26	0.23	0.24	0.01	LOW RDG IS > 10% BELOW NOM-CA BUT > Tmin	CONSIDER REDUCING THE INSPECTION INTERVAL.	OWNER TO DETERMINE	Concern
70 90L 3 STD	0.19	0.13	0.20	0.01	LOW RDG < NOM-CA BY MORE THAN 20%	CONSIDER REDUCING THE INSPECTION INTERVAL.	OWNER TO DETERMINE	Reject
75 90L 4 XS	0.29	0.24	0.27	0.01	LOW RDG IS > 10% BELOW NOM-CA BUT > Tmin	CONSIDER REDUCING THE INSPECTION INTERVAL.	OWNER TO DETERMINE	Concern
80 90L 4 XS	0.29	0.24	0.27	0.01	LOW RDG IS > 10% BELOW NOM-CA BUT > Tmin	CONSIDER REDUCING THE INSPECTION INTERVAL.	OWNER TO DETERMINE	Concern
85 90L 4 XS	0.29	0.19	0.20	0.01	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

DEFICIENCY	RECOMMENDATION	QUALITY ACTION	RESULT

VISUAL EXTERNAL INSPECTION LATEST VTE DATE USED IN SUMMARY March 30, 2016

DEFICIENCY	RECOMMENDATION	QUALITY ACTION	RESULT
UNABLE TO ACCESS PSV AT TIME OF INSPECTION A PSV IS ON TOP OF VESSEL.	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

PRESSURE EQUIPMENT DATA REPORT

EQUIPMENT GENERAL INFORMATION

District:	Medicine Hat		
Facility:	Grand Forks East		
Location /LSD:	04-01-013-13W4	Operating Province:	Alberta
Equipment Name:	FREE WATER KNOCK OUT		
Equipment Status:	Operating	Orientation:	Horizontal
Skid No.:	Unit:		

EQUIPMENT STATIC DATA

AB Registration No.:	0161444		Serial No.:	LM-1671	
Registration No./Other:			Equipment No.:	N/S	
CRN NO.:	C-8805.2		Unique ID No.:		
National Board No.:	N/S		Oncor ID No.:	158937	
Manufacturer:	C.E Natco		Year Built:	1980	
MAWP:	75.00 (psi)	517.11 (Kpa)	Temperature:	200.00 (F)	93.33 (C)
Diameter.:	92.000 (In)	2336.80 (mm)	Length:	240.00 (In)	6096.00 (mm)
Radiography:	RT2		Heat Treatment:	No	
Corrosion allowance:	0.000 (In)	0.000 (mm)	MDMT:		
Lining Or Coated:			Painted:	Yes	
Insulated:	Yes		Internally Clad:		
Hand Hole:			Support Type:	Saddle	
Manway:	Yes		Manway Size(In):	16.00	
Capacity/Volume(m3):			Nozzle Rating:	150.00	

MATERIALS/COMPONENTS

Name	Joint Efficiency	Outside Diameter(in.)	Head Type	Material Type	Stress Value (PSI)	Nominal Thickness(In.)
SHELL	1.00	92.000		SA-285 C	13800	0.31
HEAD	1.00	92.000	Ellipsoidal	SA-285 C	13800	0.50
HEAD B	1.00	92.000	Ellipsoidal	SA-285 C	13800	0.63

PIPING STATIC DATA

Primary Flange Rating:	150	ASME B16.5 - Table 2-1.1 @ 150F:	285 (psi)		
Pressure Use For TMin:	Vess Design Press	Piping Operating Press:	75 (psi)		
Stress Value:	20000 (psi)	E Value:	1.00	Joint:	SMLS

SERVICE CONDITIONS

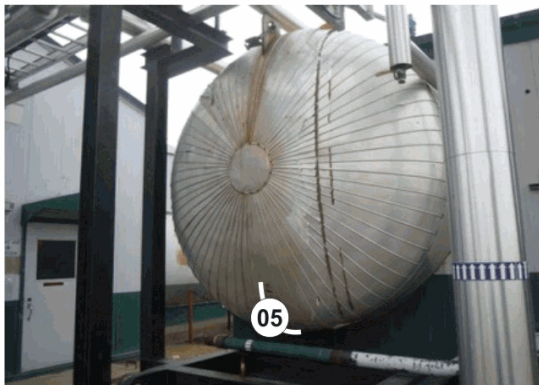
Sweet	Sour ✓	Oil	Gas	Water
Amine	LPG	Condensate	Air	Glycol

COMMENTS

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EXAMINATION ILLUSTRATION

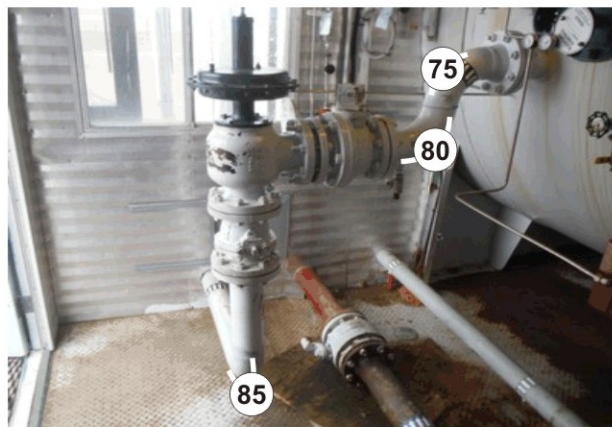
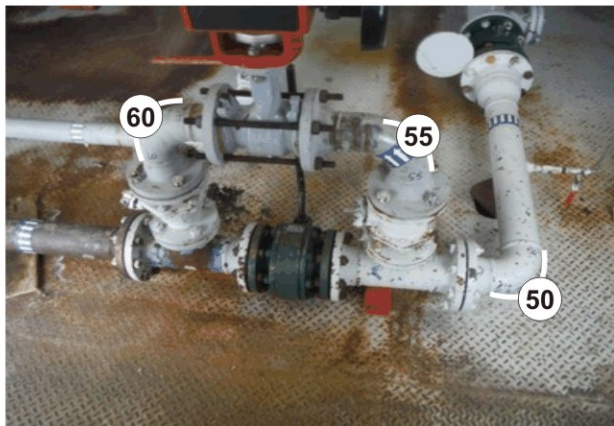
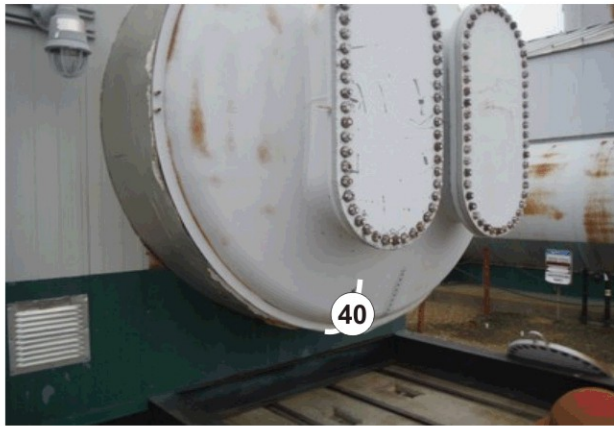
DISTRICT:	Medicine Hat	FACILITY:	Grand Forks East	LOCATION/LSD:	04-01-013-13W4
EQUIP NAME:	FREE WATER KNOCK OUT			PROV REG No.:	0161444
SERIAL No.:	LM-1671	Equip No.:	N/S	National Board No.:	N/S



NOTES: 0161444
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EXAMINATION ILLUSTRATION

DISTRICT:	MEDICINE HAT	FACILITY:	GRAND FORKS EAST	LOCATION/LSD:	04-01-013-13W4
EQUIP NAME:	FREE WATER KNOCK OUT			PROV REG No.:	0161444
SERIAL No.:	LM-1671	Equip No.:		National Board No.:	



NOTES:

ULTRASONIC CORROSION SURVEY REPORT

DISTRICT:	Medicine Hat	FACILITY:	Grand Forks East	LOCATION/LSD:	04-01-013-13W4
EQUIP NAME:	FREE WATER KNOCK OUT			PROV REG No.:	0161444
SERIAL No.:	LM-1671	Equip No.:	N/S	National Board No.:	N/S

SUMMARY

TYPE	LAST INSPECTIONS	INSPECTION INTERVAL (YEARS)	CORROSION RATE (IN/YR)		REMAINING LIFE (YEARS)	NEXT INSPECTION DATE
			SHORT TERM	LONG TERM		
VESSEL	Mar 30, 2016	5.0	0.0000	0.0000	198.0	Mar 30, 2021
PIPING	Mar 30, 2016	5.0	0.0042	0.0042	42.7	

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	0.5000	0.0000	0.5000	Mar 30/16	0.560	0.570	0.249	0.0000	0.0000	198.0	NO COMMENTS	
10	SHELL	0.3125	0.0000	0.3125	Mar 30/16	0.338	0.340	0.249	0.0000	0.0000	198.0	NO COMMENTS	
15	SHELL	0.3125	0.0000	0.3125	Mar 30/16	0.331	0.335	0.249	0.0000	0.0000	198.0	NO COMMENTS	
20	SHELL	0.3125	0.0000	0.3125	Mar 30/16	0.338	0.340	0.249	0.0000	0.0000	198.0	NO COMMENTS	
25	SHELL	0.3125	0.0000	0.3125	Mar 30/16	0.341	0.345	0.249	0.0000	0.0000	198.0	NO COMMENTS	
30	SHELL	0.3125	0.0000	0.3125	Mar 30/16	0.341	0.345	0.249	0.0000	0.0000	198.0	NO COMMENTS	
35	SHELL	0.3125	0.0000	0.3125	Mar 30/16	0.347	0.350	0.249	0.0000	0.0000	198.0	NO COMMENTS	
40	HEAD	0.5000	0.0000	0.5000	Mar 30/16	0.684	0.700	0.249	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 6 XS	6.00	XS	0.4320	0.0540	0.3780	Mar 30/16	0.440	0.455	0.012	0.0000	0.0000	198.0	NO COMMENTS
50	90L 4 STD	4.00	STD	0.2370	0.0296	0.2074	Mar 30/16	0.198	0.210	0.008	0.0011	0.0011	176.6	NO COMMENTS
55	90L 3 80	3.00	80	0.3000	0.0375	0.2625	Mar 30/16	0.258	0.265	0.007	0.0012	0.0012	217.5	NO COMMENTS
60	90L 3 80	3.00	80	0.3000	0.0375	0.2625	Mar 30/16	0.251	0.260	0.007	0.0013	0.0013	181.2	NO COMMENTS
65	90L 3 80	3.00	80	0.3000	0.0375	0.2625	Mar 30/16	0.226	0.240	0.007	0.0020	0.0020	107.7	LOW RDG IS > 10% BELOW NOM-CA BUT > Tmin
<p>Comments: DOUBLE CHECKED CALIBRATION & CONFIRMED READINGS. MINOR INTERNAL CORROSION OBSERVED WITH UT SCAN.</p>														
70	90L 3 STD	3.00	STD	0.2160	0.0270	0.1890	Mar 30/16	0.128	0.200	0.007	0.0024	0.0024	50.1	LOW RDG < NOM-CA BY MORE THAN 20%
<p>Comments: DOUBLE CHECKED CALIBRATION & CONFIRMED READINGS. INTERNAL CORROSION OBSERVED WITH UT SCAN.</p>														

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	
75	90L 4 XS	4.00	XS	0.3370	0.0421	0.2949	Mar 30/16	0.243	0.265	0.008	0.0026	0.0026	90.7	LOW RDG IS > 10% BELOW NOM-CA BUT > Tmin
Comments: DOUBLE CHECKED CALIBRATION & CONFIRMED READINGS. MINOR INTERNAL CORROSION OBSERVED WITH UT SCAN.														
80	90L 4 XS	4.00	XS	0.3370	0.0421	0.2949	Mar 30/16	0.244	0.265	0.008	0.0026	0.0026	92.0	LOW RDG IS > 10% BELOW NOM-CA BUT > Tmin
Comments: DOUBLE CHECKED CALIBRATION & CONFIRMED READINGS. MINOR INTERNAL CORROSION OBSERVED WITH UT SCAN.														
85	90L 4 XS	4.00	XS	0.3370	0.0421	0.2949	Mar 30/16	0.186	0.200	0.008	0.0042	0.0042	42.7	LOW RDG < NOM-CA BY MORE THAN 20%
Comments: DOUBLE CHECKED CALIBRATION & CONFIRMED READINGS. MINOR INTERNAL CORROSION OBSERVED WITH UT SCAN.														

INSPECTOR-EQUIPMENT DATA

Inspected By	Signature	CGSB Level	CGSB No.	Survey Dat	UT Equipment	Due Date OF Calibration	NDE Procedure #
Gordon Derewianko		1	13896	03/30/2016	104_91638503_EPOCH4	06/27/2016	WQS UT-001

District	Medicine Hat	Facility	Grand Forks East	Location/LSD	04-01-013-13W4
Equipment Name:	FREE WATER KNOCK OUT			Prov Reg No.:	0161444
Serial No.:	LM-1671	Equip No.:	N/S	National Board No.:	N/S

External Inspection

Inspector:	Justin Orichowski	ABSA PESL #:	758	Signature:		Date:	03/30/2016
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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 was not designed with anchor bolts

Accept

Vessel Foundation is Metal and is acceptable

Accept

Piping is supported by clamp 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	Accept	Accept	Accept	Accept

General

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

Accept

UNABLE TO ACCESS PSV AT TIME OF INSPECTION A PSV IS ON TOP OF VESSEL.

Concern

Comment

RECOMMEND TO OBTAIN PSV DATA/INSPECTION AT TURNAROUND OR AT NEXT OPPORTUNITY WITH MAN-LIFT.

PHOTOGRAPHS

EQUIP NAME:	FREE WATER KNOCK OUT	PROV REG No.:	0161444
SERIAL No.:	LM-1671	Equip No.:	
		National Board No.:	



NAMEPLATE



OVERALL



PSV



NOTES: