WEAR
CONTAMINATION
FLUID CONDITION

NORMAL

MARGINAL

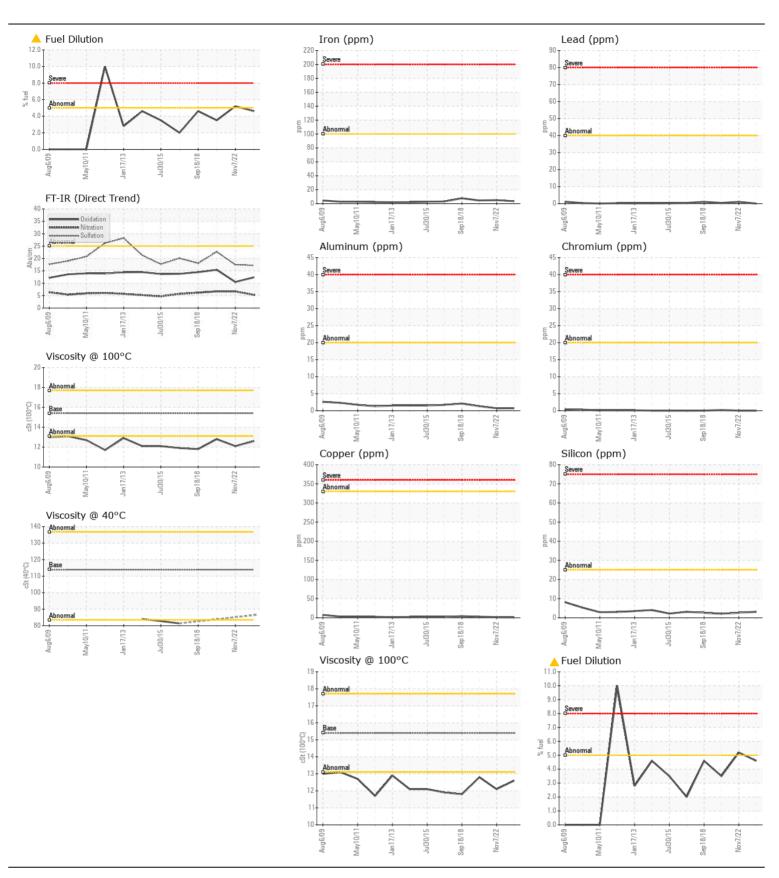
NORMAL

HALIFAX REGIONAL - DARTMOUTH SEWER TREAT [6100287061]

MTU DIESEL 5362003436

Component
Diesel Engine

Sample Number   Client Info   Valua 2028   Valua 1900   Valua 1900   Valua 2028   Valua 1900   Valua 2028   Valua 1900   Valua 1900   Valua 2028   Valua 1900   Valua 1900   Valua 2028   Valua 1900	History2	History1	Current	Limit/Abn	Method	UOM	Test	RECOMMENDATION
## nenext service interval to monitor. No other corrective action is decommended at this time.  ### Authorize Age   hrs   Cilient Info   0   10	WA001534	WA0019001	WA0020841		Client Info		Sample Number	
Machinia Age   nrs   Client Info   0   100     Filter Age   hrs   Client Info   0   100     Filter Changed   Client Info   Changed	05 Mar 202	07 Nov 2022	10 Jun 2024		Client Info		Sample Date	next service interval to monitor. No other corrective action is
Filter Age   hrs   Client Info   Changed   C	474	605	642		Client Info	hrs	Machine Age	
Cilc Hungod   Cilient Info   Changed   Chan	0	100	0		Client Info	hrs	Oil Age	econimended at this time.
Filter Changed Sample Status	0		0		Client Info	hrs		
NEAR	Changed							
Iron	Changed	Changed	Changed		Client Info		-	
Chromium	MARGINA	ABNORMAL	MARGINAL				Sample Status	
Chromium   ppm   ASTM 05185/m   20   0   0   0   0   0   0   0   0	4	5	3	>100	ASTM D5185(m)	ppm	Iron	VEAR
Titanium   ppm   ASTND586 m    3   0   1	<1	0	0	>20	ASTM D5185(m)	ppm	Chromium	
Silver   ppm   ASTM D5185(m)   >3   0   0   0   1	<1	<1	0	>4	ASTM D5185(m)	ppm	Nickel	Metal levels are typical for a new component breaking in.
Aluminum   ppm   ASTM DS185m   >20   <1   <1	<1	<1	0		ASTM D5185(m)	ppm	Titanium	
Lead   ppm   ASTM D5185(m)   >40   0   1	0	0	0	>3	ASTM D5185(m)	ppm	Silver	
Copper   ppm   ASTM DS185(m)   >330   1   2     Tin   ppm   ASTM DS185(m)   >50   0   0     White Metal   ppm   ASTM DS185(m)   0   0   0     White Metal   scalar   Visual*   NONE   NONE   NONE     CONTAMINATION   Light fuel dilution occurring. No other contaminants were detected in the oil.   Silicon   ppm   ASTM DS185(m)   >20   <1   2     Fuel   % ASTM D7835*   >5   4.6   \$.52     Water   WC Method   >0.2   NEG   NEG     Glycol   WC Method   Soot %   ASTM D7844*   >3   0   0     Nitration   Abs/cm   ASTM D7844*   >3   0   0     Nitration   Abs/cm   ASTM D7844*   >3   0   0   0     Nitration   Abs/cm   ASTM D7844*   >0   0   0   0     Nitration   Abs/cm   ASTM D7844*   >0   0   0   0     None	1	<1	<1	>20	. ,	ppm	Aluminum	
Tin	<1		0			ppm		
Vanadium   ppm   ASTM D5185m   NONE   VILTE	3	2	1		( /	ppm		
White Metal Yellow Metal   Scalar Visual*   NONE	<1			>15	. ,	ppm		
	0	0	-		. ,			
Silicon   ppm   ASTM D5185(m)   >25   3   3   3								
Potassium   ppm   ASTM D5185(m)   >20   <1   2			NONE	NONE	Visual*	scalar	Yellow Metal	
Potassium   ppm   ASTM D5185(m)   >20   <1   2	2	3	3	>25	ASTM D5185(m)	ppm	Silicon	CONTAMINATION
Water   WC Method   NEG   NEG   NEG   Scot %   %   ASTM D7844*   33   0   0   0   0   0   0   0   0	3	2	<1	>20	ASTM D5185(m)	ppm	Potassium	
Water   Wick Method   Succession   Success	<b>△</b> 3.5	▲ 5.2	<b>4.6</b>	>5	ASTM D7593*	%	Fuel	
Soot %	NEG	NEG	NEG	>0.2	WC Method		Water	ne oii.
Nitration   Abs/cm   ASTM D7624*   >20   5.3   6.7	NEG	NEG	NEG				Glycol	
Sulfation   Abs/.1mm   ASTM D7415*   >30   17.2   17.5	0	0	0	>3	ASTM D7844*	%	Soot %	
Silt   scalar   Visual*   NONE   NONE   Debris   scalar   Visual*   NONE   NONE   Sand/Dirt   scalar   Visual*   NONE   NONE   NONE   Sand/Dirt   scalar   Visual*   NONE   NONE   NONE   Sand/Dirt   scalar   Visual*   NORML   NOR	6.7	<u> </u>						
Debris   Scalar   Visual*   NONE   NONE   Sand/Dirt   Scalar   Visual*   NONE   NONE   NONE   Sand/Dirt   Scalar   Visual*   NONE   NONE   Sand/Dirt   Scalar   Visual*   NORML   NO	22.7	1	1					
Sand/Dirt   scalar   Visual*   NONE   NORML   Appearance   scalar   Visual*   NORML			_					
Appearance   Scalar   Visual*   NORML   NORML   NORML								
Odor   Scalar   Visual*   NORML   NORML   Emulsified Water   Scalar   Visual*   >0.2   NEG   NEG								
Emulsified Water   scalar   Visual*   >0.2   NEG   NEG		1	-					
Sodium   ppm   ASTM D5185(m)   1   2	NEC							
Boron   ppm   ASTM D5185(m)   0   0   0   0   0   0   0   0   0	NEG	INEG	NEG	>0.2	visuai	Scalar		<u></u>
Boron   ppm   ASTM D5185(m)   0   0   0   0   0   0   0   0   0	2	2	1		ASTM D5185(m)	ppm	Sodium	LUID CONDITION
Barium   ppm   ASTM D5185(m)   0   0   0   0   0   Molybdenum   ppm   ASTM D5185(m)   60   49   <1   Manganese   ppm   ASTM D5185(m)   0   0   <1   Magnesium   ppm   ASTM D5185(m)   0   0   <1   Magnesium   ppm   ASTM D5185(m)   1010   803   18   Calcium   ppm   ASTM D5185(m)   1070   1188   2295   Phosphorus   ppm   ASTM D5185(m)   1150   956   977   Zinc   ppm   ASTM D5185(m)   1270   1124   1037   Sulfur   ppm   ASTM D5185(m)   2060   2623   3111   Oxidation   Abs/.1mm   ASTM D7414*   >25   12.4   10.5   Visc @ 40°C   CSt   ASTM D7279(m)   113.9   86.4	109		5	0				
Manganese         ppm         ASTM D5185(m)         0         <1           Magnesium         ppm         ASTM D5185(m)         1010         803         18           Calcium         ppm         ASTM D5185(m)         1070         1188         2295           Phosphorus         ppm         ASTM D5185(m)         1150         956         977           Zinc         ppm         ASTM D5185(m)         1270         1124         1037           Sulfur         ppm         ASTM D5185(m)         2060         2623         3111           Oxidation         Abs/.1mm         ASTM D7414*         >25         12.4         10.5           Visc @ 40°C         CSt         ASTM D7279(m)         113.9         86.4	<1	0	0	0	ASTM D5185(m)	ppm	Barium	The condition of the oil is acceptable for the time in service.
Magnesium         ppm         ASTM D5185(m)         1010         803         18           Calcium         ppm         ASTM D5185(m)         1070         1188         2295           Phosphorus         ppm         ASTM D5185(m)         1150         956         977           Zinc         ppm         ASTM D5185(m)         1270         1124         1037           Sulfur         ppm         ASTM D5185(m)         2060         2623         3111           Oxidation         Abs/.1mm         ASTM D7414*         >25         12.4         10.5           Visc @ 40°C         CSt         ASTM D7279(m)         113.9         86.4	<1	<1	49	60	ASTM D5185(m)	ppm	Molybdenum	
Calcium         ppm         ASTM D5185(m)         1070         1188         2295           Phosphorus         ppm         ASTM D5185(m)         1150         956         977           Zinc         ppm         ASTM D5185(m)         1270         1124         1037           Sulfur         ppm         ASTM D5185(m)         2060         2623         3111           Oxidation         Abs/.1mm         ASTM D7414*         >25         12.4         10.5           Visc @ 40°C         CSt         ASTM D7279(m)         113.9         86.4	<1	<1	0	0	ASTM D5185(m)	ppm	Manganese	
Phosphorus         ppm         ASTM D5185(m)         1150         956         977           Zinc         ppm         ASTM D5185(m)         1270         1124         1037           Sulfur         ppm         ASTM D5185(m)         2060         2623         3111           Oxidation         Abs/.1mm         ASTM D7414*         >25         12.4         10.5           Visc @ 40°C         CSt         ASTM D7279(m)         113.9         86.4	16	18	803	1010	ASTM D5185(m)	ppm		
Zinc         ppm         ASTM D5185(m)         1270         1124         1037           Sulfur         ppm         ASTM D5185(m)         2060         2623         3111           Oxidation         Abs/.1mm         ASTM D7414*         >25         12.4         10.5           Visc @ 40°C         CSt         ASTM D7279(m)         113.9         86.4	2290	2295		1070	ASTM D5185(m)	ppm	Calcium	
Sulfur         ppm         ASTM D5185(m)         2060         2623         3111           Oxidation         Abs/.1mm         ASTM D7414*         >25         12.4         10.5           Visc @ 40°C         CSt         ASTM D7279(m)         113.9         86.4	1052	1				ppm		
Oxidation         Abs/.1mm         ASTM D7414*         >25         12.4         10.5           Visc @ 40°C         cSt         ASTM D7279(m)         113.9         86.4	1156				. ,	ppm		
Visc @ 40°C   cSt   ASTM D7279(m)   113.9   86.4	3379	1						
	15.4							
Vice @ 100°C		1					-	
Viscosity Index (VI)   Scale   ASTM D2270*   142   143	12.8	▲ 12.1	12.6			cSt	Visc @ 100°C	





CALA ISO 17025:2017 Accredited Laboratory

Lab Number

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Sample No.

: WA0020841 : 02642268 Unique Number : 5799807

Received **Tested** Diagnosed

: 17 Jun 2024 : 18 Jun 2024

: 18 Jun 2024 - Wes Davis

Test Package: MOB 1 (Additional Tests: KV40, PercentFuel, VI, Visual)

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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