

WEAR CONTAMINATION **FLUID CONDITION**

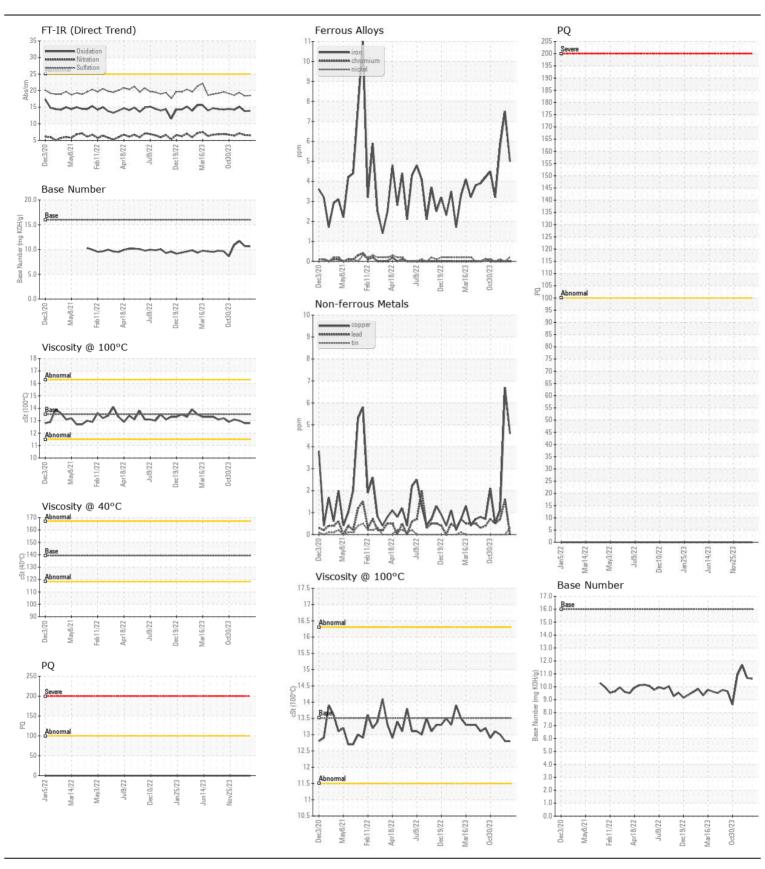
NORMAL NORMAL ABNORMAL



AH3111 - Auxiliary Generator Genset

PETRO CANADA CM MHP 154 (138 LTR)

Resample at the next service interval to monitor. Sample Number Client Info 24 Mac 2024 Ol Jan 2024 Ol		<i>'</i>						
Sample Date Client Info	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	,
Machine Age hrs Client Info 24585 22996 00 00 00 00 00 00 00		Sample Number		Client Info		WC0855641	WC0855644	WC0860189
Ol Age hrs Client Info 494 500 0 1 1 1 1 1 1 1 1						24 Mar 2024		
Filter Age hrs Client Info Changed C		•						
Oil Changed Chent Info Changed								
Filter Changed Sample Status		•	hrs					
Nome		•					_	
PQ				Client Info				
All component wear rates are normal. Inch		Sample Status				ABNORMAL	NORMAL	NORMAL
All component wear rates are normal. Chromium ppm ASTM D5185m 22 41 0 0 0 0 0 0 0 0 0	WEAR	PQ		ASTM D8184*		0	0	0
Nickel ppm ASTMUSHS m >2	•	Iron	ppm	ASTM D5185(m)	>50	5	8	6
Titanium ppm ASTM 05185m 5 0 0 0 0 0 Silver ppm ASTM 05185m 5 0 0 0 0 Aluminum ppm ASTM 05185m 5 0 0 0 Lead ppm ASTM 05185m 5 7 0 2 0 Copper ppm ASTM 05185m 7 0 2 0 Tin ppm ASTM 05185m 7 0 0 0 Vanadium ppm ASTM 05185m 0 0 0 White Metal scalar Visual* NONE NON	All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)	>4	0	0	0
Silver ppm ASTM D685m >12 <1 0 0 <1		Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Aluminum ppm ASTIND(585m) >12 <1 0 1		Titanium	ppm	ASTM D5185(m)		0	0	0
Lead		Silver	ppm	ASTM D5185(m)	>5	0	0	<1
Copper		Aluminum	ppm	ASTM D5185(m)	>12	<1	0	1
Tin		Lead	ppm	ASTM D5185(m)	>17	0	2	<1
Vanadium ppm ASTM D5185/m 0 0 0 0 0 0 0 0 0 0 0 0		Copper	ppm	ASTM D5185(m)	>70	5	7	1
White Metal Yellow Metal Young NoNE NONE NONE NONE NONE NONE NONE NONE		Tin	ppm	ASTM D5185(m)	>15	<1	0	0
Yellow Metal Scalar Visual* NONE NON		Vanadium	ppm	ASTM D5185(m)		0	0	0
Silicon ppm ASTM D5185(m) >2.5 4 9 2		White Metal	scalar	Visual*	NONE	NONE		
Potassium ppm ASTM D5185m 20 0 <1 4		Yellow Metal	scalar	Visual*	NONE	NONE		
Potassium ppm ASTM D5185m 20 0 <1 4	CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	4	9	2
Fuel WC Method Vec Method NEG	CONTAMINATION			. ,				
Water WC Method NeG NE	There is no indication of any contamination in the oil.		ppiii	(/		_		
Glycol WC Method NEG NEG NEG NEG Soot % (% ASTM D7824* > 20								
Soot %					7 0			
Nitration Abs/cm ASTM D7624* >20 6.5 6.6 7.1			%					
Sulfation Abs/.tmm ASTM D7415* >30 18.5 18.4 19.4		Nitration	Abs/cm		>20		6.6	
Silt Scalar Visual* NONE NORML NOR								
Sand/Dirt Scalar Visual* NONE NORML		Silt	scalar	Visual*	NONE	NONE		
Sand/Dirt Scalar Visual* NONE NORML		Debris	scalar	Visual*	NONE	NONE		
Odor Emulsified Water Scalar Visual* NORML NORML NEG NEG NEG		Sand/Dirt		Visual*		NONE		
Emulsified Water scalar Visual* >0.1 NEG NEG NEG		Appearance	scalar	Visual*	NORML	NORML		
Sodium ppm ASTM D5185(m) 2 2 2 2 2 2 3 3 3 3		Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185(m) 11 8 5		Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Barium ppm ASTM D5185(m) 54 53 54 Molybdenum ppm ASTM D5185(m) 54 53 54 Manganese ppm ASTM D5185(m) 54 54 54 54 Manganese ppm	FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		2	2	2
oil. The condition of the oil is suitable for further service. Molybdenum ppm ASTM D5185(m) 54 53 54 Manganese ppm ASTM D5185(m) 866 892 887 Calcium ppm ASTM D5185(m) 866 892 887 Calcium ppm ASTM D5185(m) 1462 1542 1435 Phosphorus ppm ASTM D5185(m) 950 984 987 Zinc ppm ASTM D5185(m) 1098 1136 1164 1141 Sulfur ppm ASTM D5185(m) 3102 3182 3085 Oxidation Abs/.1mm ASTM D7414* >25 13.9 13.8 15.1 Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C CSt ASTM D7279(m) 139.2 93.4 Visc @ 100°C CSt ASTM D7279(m) 13.51 12.8 12.8 13.0		Boron	ppm	ASTM D5185(m)		11	8	5
Manganese ppm ASTM D5185(m) x1 0 0 0 0 0 0 0 0 0	, ,	Barium	ppm	ASTM D5185(m)		0	<1	0
Magnesium ppm ASTM D5185(m) 866 892 887 Calcium ppm ASTM D5185(m) 1462 1542 1435 Phosphorus ppm ASTM D5185(m) 950 984 987 Zinc ppm ASTM D5185(m) 1098 1136 1164 1141 Sulfur ppm ASTM D5185(m) 3102 3182 3085 Oxidation Abs/.1mm ASTM D7414* >25 13.9 13.8 15.1 Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C cSt ASTM D7279(m) 139.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0	oil. The condition of the oil is suitable for further service.	Molybdenum	ppm	ASTM D5185(m)		54	53	54
Calcium ppm ASTM D5185(m) 1462 1542 1435 Phosphorus ppm ASTM D5185(m) 950 984 987 Zinc ppm ASTM D5185(m) 1098 1136 1164 1141 Sulfur ppm ASTM D5185(m) 3102 3182 3085 Oxidation Abs/.1mm ASTM D7414* >25 13.9 13.8 15.1 Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C cSt ASTM D7279(m) 139.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0		Manganese	ppm	ASTM D5185(m)		<1	0	
Phosphorus ppm ASTM D5185(m) 950 984 987 Zinc ppm ASTM D5185(m) 1098 1136 1164 1141 Sulfur ppm ASTM D5185(m) 3102 3182 3085 Oxidation Abs/.1mm ASTM D7414* >25 13.9 13.8 15.1 Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C cSt ASTM D7279(m) 13.9.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0		Magnesium	ppm	ASTM D5185(m)		866	892	887
Zinc ppm ASTM D5185(m) 1098 1136 1164 1141 Sulfur ppm ASTM D5185(m) 3102 3182 3085 Oxidation Abs/.1mm ASTM D7414* >25 13.9 13.8 15.1 Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C cSt ASTM D7279(m) 139.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0		Calcium	ppm	ASTM D5185(m)		1462		
Sulfur ppm ASTM D5185(m) 3102 3182 3085 Oxidation Abs/.1mm ASTM D7414* >25 13.9 13.8 15.1 Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C cSt ASTM D7279(m) 139.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0		Phosphorus	ppm			950	984	
Oxidation Abs/.1mm ASTM D7414* >25 13.9 13.8 15.1 Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C cSt ASTM D7279(m) 13.9.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0			ppm	ASTM D5185(m)	1098			
Base Number (BN) mg KOH/g ASTM D2896* 15.99 10.61 10.68 11.68 Visc @ 40°C cSt ASTM D7279(m) 139.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0		Sulfur	ppm			3102	3182	3085
Visc @ 40°C cSt ASTM D7279(m) 139.2 93.4 Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0							13.8	
Visc @ 100°C cSt ASTM D7279(m) 13.51 12.8 12.8 13.0		Base Number (BN)	mg KOH/g		15.99	10.61	10.68	11.68
		_		()				
Viscosity Index (VI) Scale ASTM D2270* 99 🔼 133 📗							12.8	13.0
		Viscosity Index (VI)	Scale	ASTM D2270*	99	<u> </u>		





CALA ISO 17025:2017 Accredited

Laboratory

Laboratory Sample No.

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Lab Number

: WC0855641 : 02628298 Unique Number : 5761430

Received **Tested** Diagnosed

: 11 Apr 2024 : 12 Apr 2024

: 12 Apr 2024 - Kevin Marson Test Package: MAR 2 (Additional Tests: KV40, PQ, VI, Visual)

CANADIAN COAST GUARD/DFO CCGS ANN HARVEY, P.O. BOX 5667 ST. JOHN'S, NL **CA A1C 5X1**

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