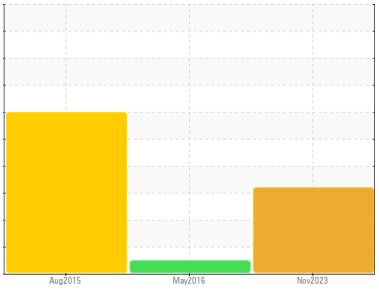
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
E-ONE 25057 R412
Component
Front Diesel Engine
Fluid
CASTROL HYPURON 15W40 (23 LTR)

DIAGNOSIS

Recommendation
Check for low coolant level. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. No other contaminants were detected in the oil.

Fluid Condition
The condition of the oil is acceptable for the time in service (see recommendation).

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0083784**	AP101976	AP98646
Sample Date		Client Info		**21 Nov 2023**	18 May 2016	11 Aug 2015
Machine Age	hrs	Client Info		**7516**	23730	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**ABNORMAL**	NORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	**46**	34	39
Chromium	ppm	ASTM D5185(m)	>5	**2**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	4
Silver	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>15	**9**	7	7
Lead	ppm	ASTM D5185(m)	>25	**1**	4	12
Copper	ppm	ASTM D5185(m)	>100	**4**	134	392
Tin	ppm	ASTM D5185(m)	>4	**0**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	1	1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

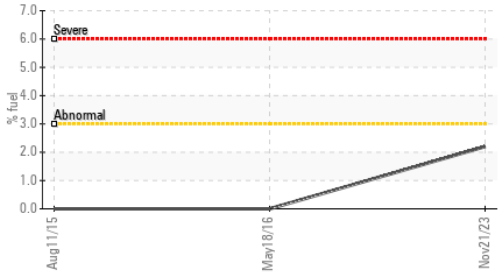
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**12**	27	28
Barium	ppm	ASTM D5185(m)		**<1**	<1	1
Molybdenum	ppm	ASTM D5185(m)		**136**	<1	8
Manganese	ppm	ASTM D5185(m)		**<1**	<1	3
Magnesium	ppm	ASTM D5185(m)		**862**	14	178
Calcium	ppm	ASTM D5185(m)		**998**	2457	2145
Phosphorus	ppm	ASTM D5185(m)		**742**	957	966
Zinc	ppm	ASTM D5185(m)		**1037**	1196	1189
Sulfur	ppm	ASTM D5185(m)		**2547**	3138	3253
Lithium	ppm	ASTM D5185(m)		**<1**	<1	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**31**	6	13
Sodium	ppm	ASTM D5185(m)		**1110**	3	3
Potassium	ppm	ASTM D5185(m)	>20	**332**	13	16
Fuel	%	ASTM D7593*	>3.0	**2.2**	<1.0	<1.0
Glycol	%	ASTM D7922*		**0.0**	0.0	0.0

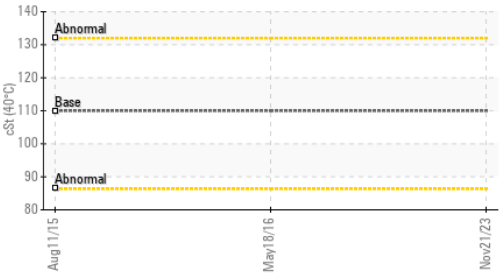
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**1.4**	0.9	0.4
Nitration	Abs/cm	ASTM D7624*	>20	**14.8**	11.9	9.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	**30.5**	27.0	22.0

OIL ANALYSIS REPORT

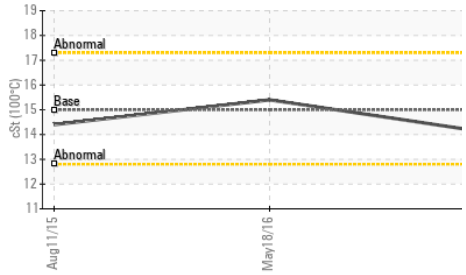
Fuel Dilution



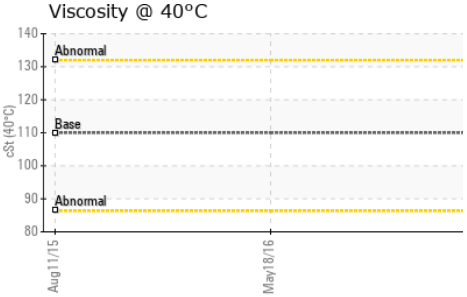
Viscosity @ 40°C



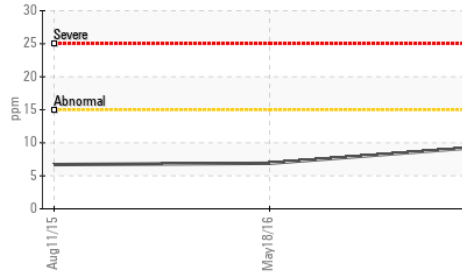
Viscosity @ 100°C



Viscosity @ 40°C



Aluminum (ppm)



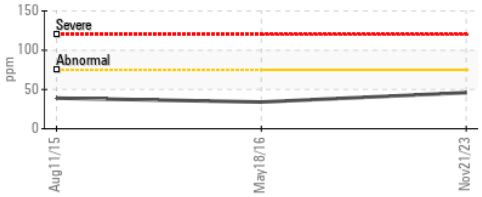
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**29.3**	22.2	18.1

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

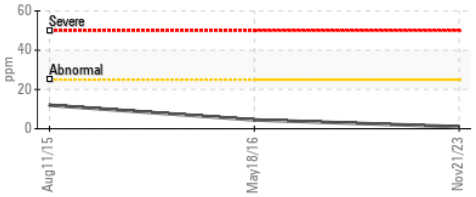
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	110	**103**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	**14.1**	15.4	14.4
Viscosity Index (VI)	Scale	ASTM D2270*	140	**139**	---	---

GRAPHS

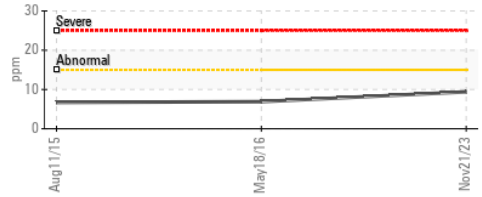
Iron (ppm)



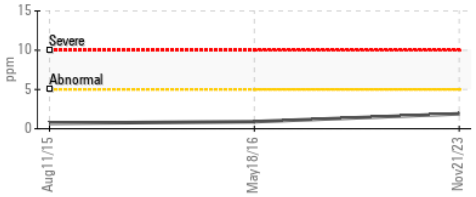
Lead (ppm)



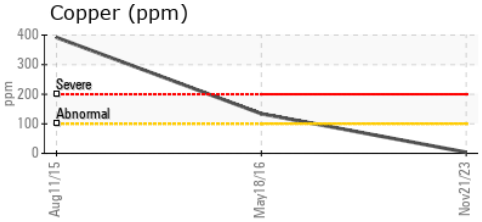
Aluminum (ppm)



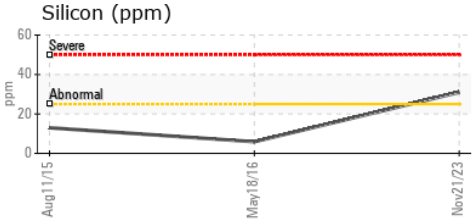
Chromium (ppm)



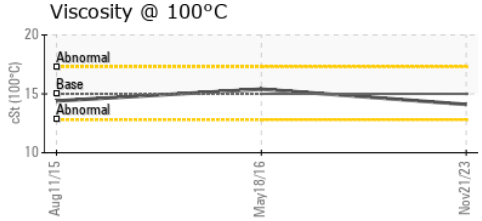
Copper (ppm)



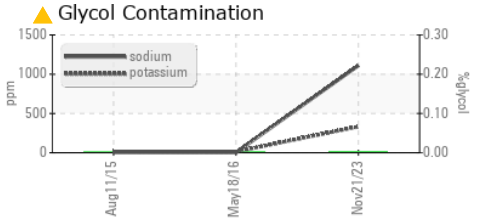
Silicon (ppm)



Viscosity @ 100°C



Glycol Contamination



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0083784 **Recieved** : 15 Dec 2023
Lab Number : 02603422 **Diagnosed** : 19 Dec 2023
Unique Number : 5696507 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: FUELDILUTION, Glycol, 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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