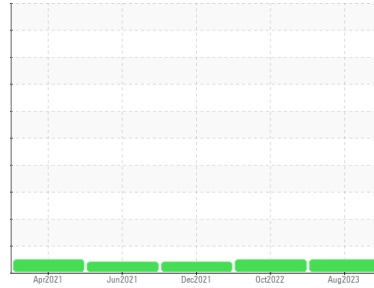


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
8565

Component
Diesel Engine

Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PCA0088663	PCA0051873	PCA0051720
Sample Date	Client Info	30 Aug 2023	05 Oct 2022	27 Dec 2021
Machine Age	mls	66347	283698	0
Oil Age	mls	66347	0	164169
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		NORMAL	NORMAL	ATTENTION

CONTAMINATION

method	limit/base	current	history1	history2
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >100	38	31	14
Chromium	ppm	ASTM D5185m >20	2	2	2
Nickel	ppm	ASTM D5185m >4	<1	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	4	8	6
Lead	ppm	ASTM D5185m >40	0	<1	<1
Copper	ppm	ASTM D5185m >330	3	5	2
Tin	ppm	ASTM D5185m >15	<1	<1	0
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	<1	21	2
Barium	ppm	ASTM D5185m	0	2	0
Molybdenum	ppm	ASTM D5185m	62	63	61
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	924	415	962
Calcium	ppm	ASTM D5185m	1155	1906	1110
Phosphorus	ppm	ASTM D5185m	1087	1035	1058
Zinc	ppm	ASTM D5185m	1209	1278	1192
Sulfur	ppm	ASTM D5185m	2594	3451	2394

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	11	12	8
Sodium	ppm	ASTM D5185m	5	2	1
Potassium	ppm	ASTM D5185m >20	5	16	13
Fuel	%	ASTM D3524 >5	0.2	<1.0	<1.0

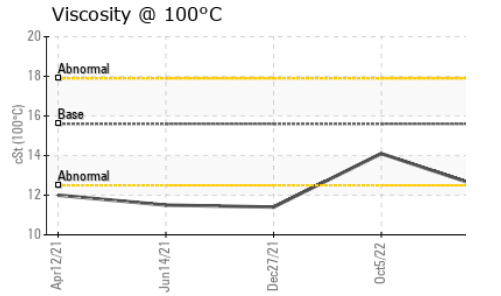
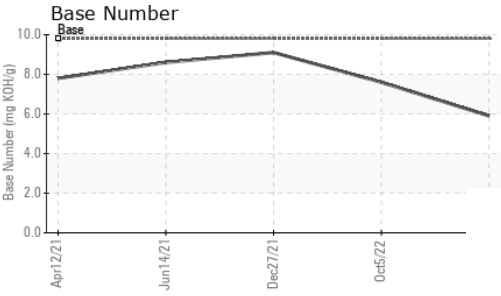
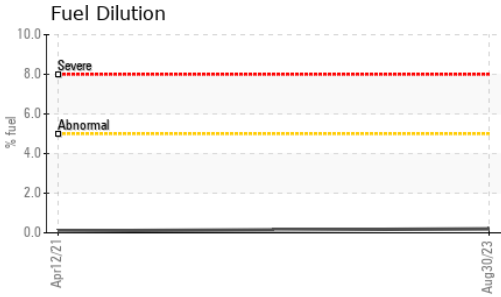
INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	2.6	1.1	0.7
Nitration	Abs/cm	*ASTM D7624 >20	12.6	11.1	7.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	27.4	25.1	19.7

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.6	20.3	14.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	5.9	7.6	9.1

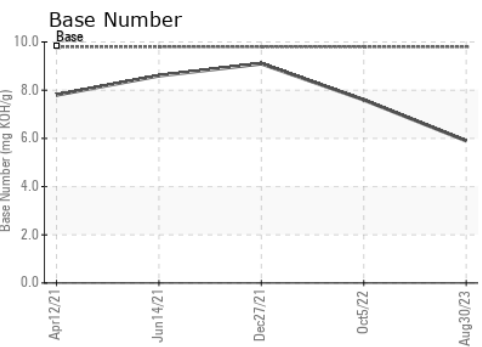
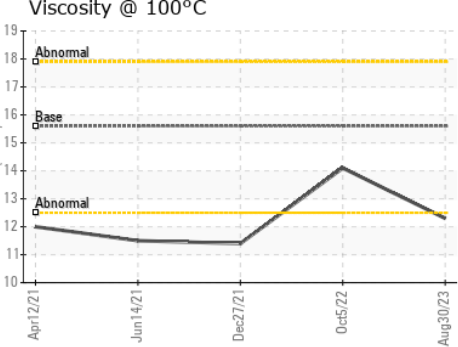
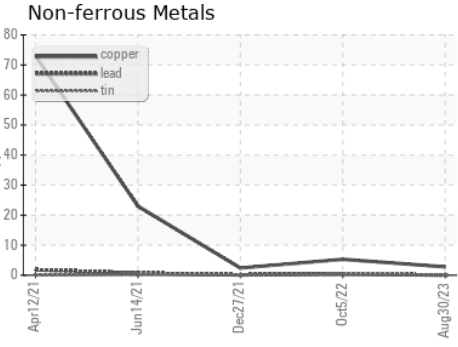
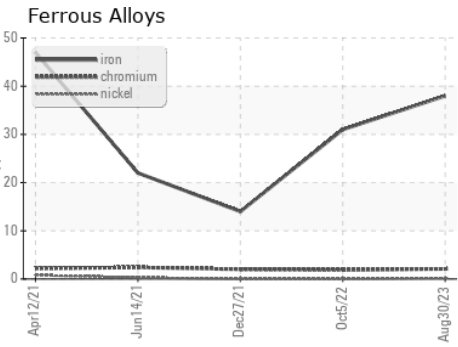
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	12.3	14.1 ▲ 11.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0088663 **Received** : 31 Oct 2023
Lab Number : 05994048 **Diagnosed** : 03 Nov 2023
Unique Number : 10722408 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

MIDWEST MOTOR EXPRESS
 2169 MUSTANG DR
 MOUNDS VIEW, MN
 US 55112
 Contact: FRANK DIETZ
 frank.dietz@mmeinc.com
 T: (763)225-6382
 F: x:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)