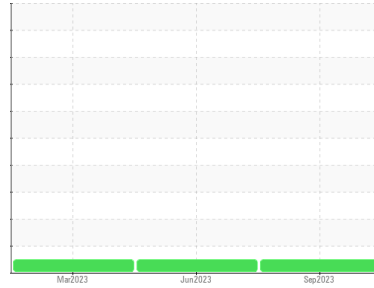


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
8601
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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		PCA0088622	PCA0088533	PCA0088493
Sample Date	Client Info		19 Sep 2023	06 Jun 2023	06 Mar 2023
Machine Age	mls	Client Info	127666	89800	55011
Oil Age	mls	Client Info	127666	89800	55011
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	24	39	89
Chromium	ppm	ASTM D5185m >20	<1	1	2
Nickel	ppm	ASTM D5185m >4	0	<1	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	13	20	35
Lead	ppm	ASTM D5185m >40	<1	<1	<1
Copper	ppm	ASTM D5185m >330	14	45	104
Tin	ppm	ASTM D5185m >15	0	<1	<1
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 2	8	1	20
Barium	ppm	ASTM D5185m 0	0	1	0
Molybdenum	ppm	ASTM D5185m 50	61	60	64
Manganese	ppm	ASTM D5185m 0	<1	1	4
Magnesium	ppm	ASTM D5185m 950	923	865	544
Calcium	ppm	ASTM D5185m 1050	1078	1116	1850
Phosphorus	ppm	ASTM D5185m 995	1019	906	1026
Zinc	ppm	ASTM D5185m 1180	1159	1121	1315
Sulfur	ppm	ASTM D5185m 2600	2609	2324	3445

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	8	13
Sodium	ppm	ASTM D5185m	4	<1	5
Potassium	ppm	ASTM D5185m >20	40	35	60

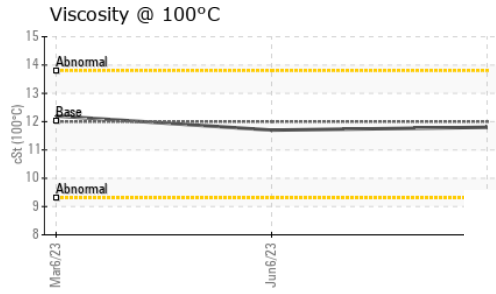
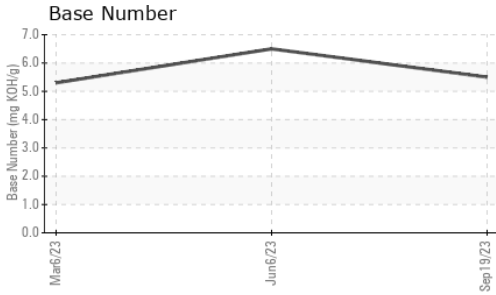
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.2	1.2	1.9
Nitration	Abs/cm	*ASTM D7624 >20	9.6	9.7	11.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.2	22.4	23.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.0	19.6	20.5
Base Number (BN)	mg KOH/g	ASTM D2896	5.5	6.5	5.3

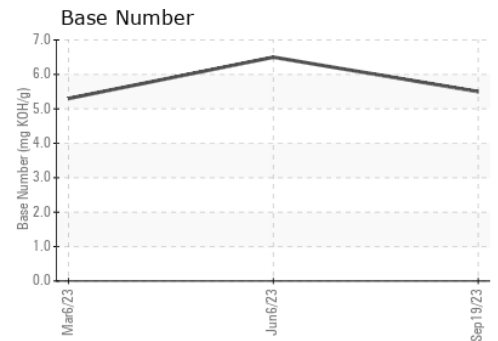
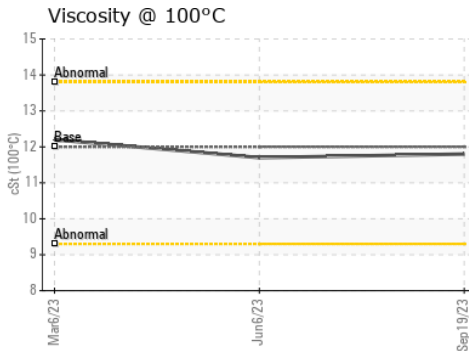
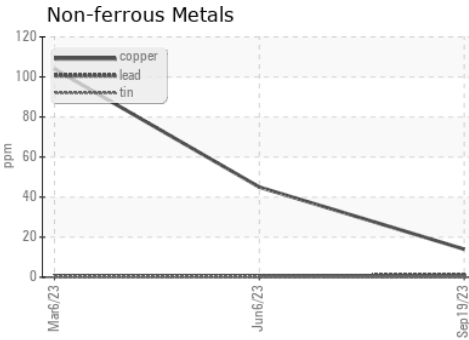
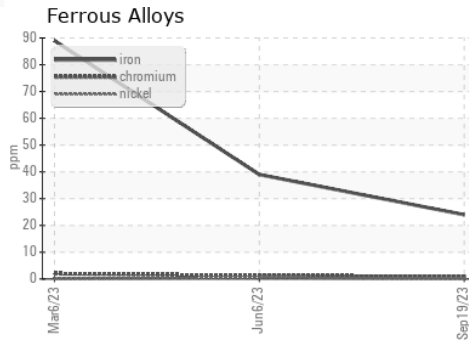
OIL ANALYSIS REPORT



PARAMETER	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	12.00	11.8	11.7	12.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0088622 **Received** : 31 Oct 2023
Lab Number : 05994039 **Diagnosed** : 31 Oct 2023
Unique Number : 10722399 **Diagnostician** : Wes Davis
Test Package : FLEET

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)