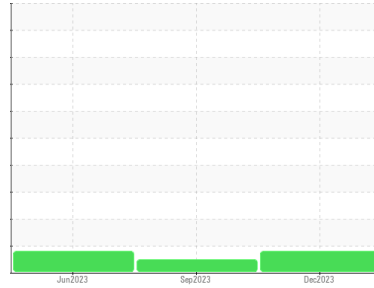


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
2227032

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Exhaust valve wear is indicated.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PCA0094598	PCA0094590	PCA0052347
Sample Date	Client Info			23 Dec 2023	27 Sep 2023	12 Jun 2023
Machine Age	mls	Client Info		100688	67605	29601
Oil Age	mls	Client Info		33083	38544	29601
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	27	40	37
Chromium	ppm	ASTM D5185m	>20	1	1	<1
Nickel	ppm	ASTM D5185m	>4	▲ 10	3	1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	12	23
Lead	ppm	ASTM D5185m	>40	2	3	6
Copper	ppm	ASTM D5185m	>330	23	94	▲ 348
Tin	ppm	ASTM D5185m	>15	2	3	4
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	6	4	84
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	66	84	113
Manganese	ppm	ASTM D5185m	0	1	2	5
Magnesium	ppm	ASTM D5185m	950	872	880	692
Calcium	ppm	ASTM D5185m	1050	1106	1137	1373
Phosphorus	ppm	ASTM D5185m	995	892	845	651
Zinc	ppm	ASTM D5185m	1180	1103	1127	798
Sulfur	ppm	ASTM D5185m	2600	2489	2532	2331

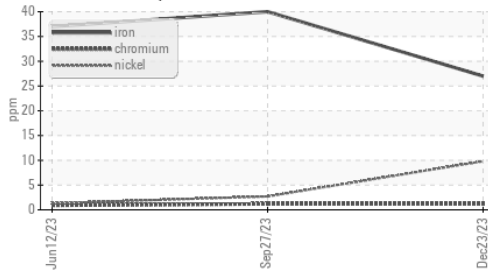
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	11	32
Sodium	ppm	ASTM D5185m		2	2	5
Potassium	ppm	ASTM D5185m	>20	10	51	60

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.6	0.6	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.8	10.7	11.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.0	22.4	22.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	19.6	22.5
Base Number (BN)	mg KOH/g	ASTM D2896		5.6	4.6	7.6

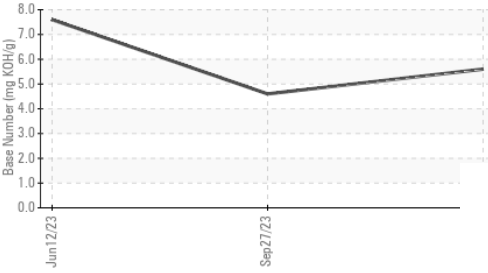
OIL ANALYSIS REPORT

▲ Ferrous Alloys



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

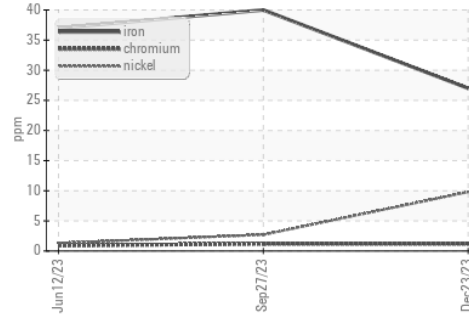
Base Number



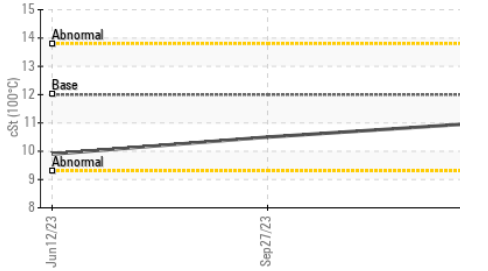
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.0	10.5

GRAPHS

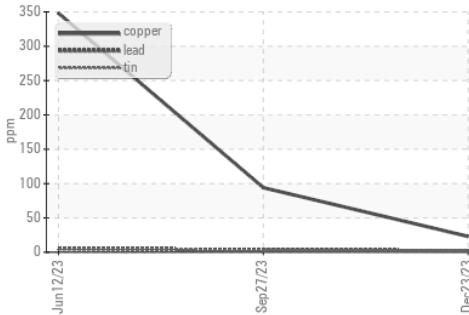
▲ Ferrous Alloys



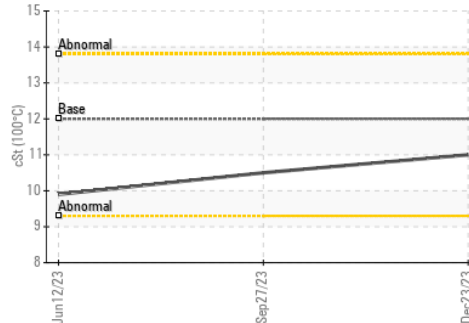
Viscosity @ 100°C



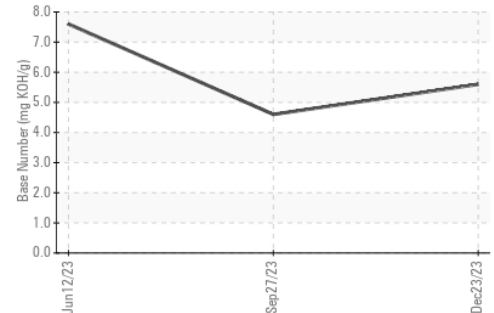
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0094598 **Received** : 08 Jan 2024
Lab Number : 06053337 **Diagnosed** : 09 Jan 2024
Unique Number : 10819286 **Diagnostician** : Sean Felton
Test Package : FLEET

PERDUE FARMS - WASHINGTON
 P.O. BOX 539
 WASHINGTON, IN
 US 47501
 Contact: DEREK RYAN
 derek.ryan@perdue.com
 T: (812)257-3023
 F:

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)