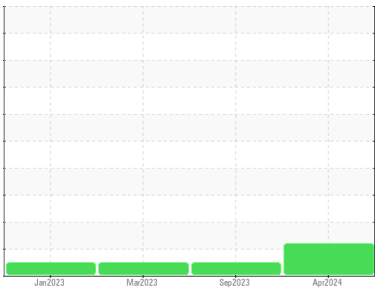
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
1926726
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. 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
Light fuel dilution occurring.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0114788**	PCA0101151	PCA0076928
Sample Date		Client Info		**21 Apr 2024**	10 Sep 2023	24 Mar 2023
Machine Age	mls	Client Info		**438000**	0	354869
Oil Age	mls	Client Info		**20000**	40000	44869
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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**	37	34
Chromium	ppm	ASTM D5185m	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**1**	<1	<1
Titanium	ppm	ASTM D5185m		**16**	2	8
Silver	ppm	ASTM D5185m	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**5**	4	6
Lead	ppm	ASTM D5185m	>40	**1**	2	1
Copper	ppm	ASTM D5185m	>330	**8**	6	8
Tin	ppm	ASTM D5185m	>15	**<1**	<1	1
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**7**	<1	<1
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	50	**36**	57	51
Manganese	ppm	ASTM D5185m	0	**<1**	<1	1
Magnesium	ppm	ASTM D5185m	950	**649**	924	800
Calcium	ppm	ASTM D5185m	1050	**1068**	1108	1159
Phosphorus	ppm	ASTM D5185m	995	**827**	979	881
Zinc	ppm	ASTM D5185m	1180	**988**	1254	1175
Sulfur	ppm	ASTM D5185m	2600	**2957**	2715	2639

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	4	6
Sodium	ppm	ASTM D5185m		**7**	17	15
Potassium	ppm	ASTM D5185m	>20	**4**	1	2
Fuel	%	ASTM D3524	>5	▲ **2.5**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**9.0**	11.2	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.6**	23.6	23.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.5**	20.6	19.7
Base Number (BN)	mg KOH/g	ASTM D2896		**5.5**	3.0	5.1

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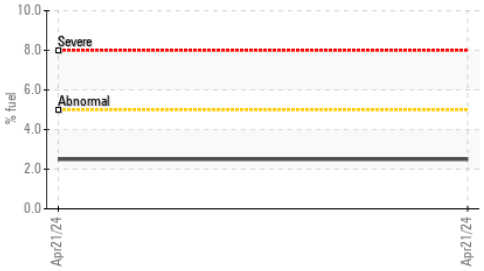
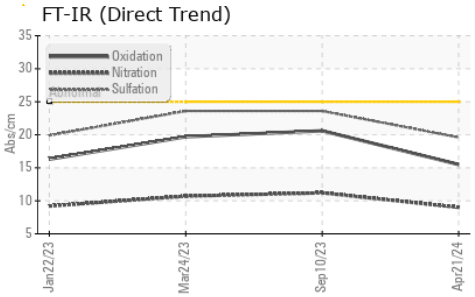
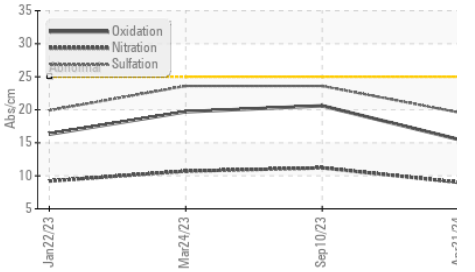
Fuel Dilution



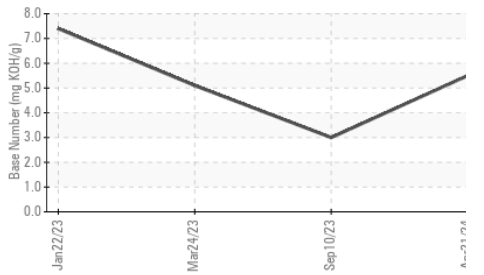
FT-IR (Direct Trend)



FT-IR (Direct Trend)



Base Number

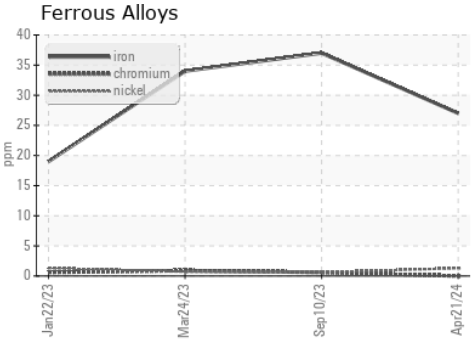


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

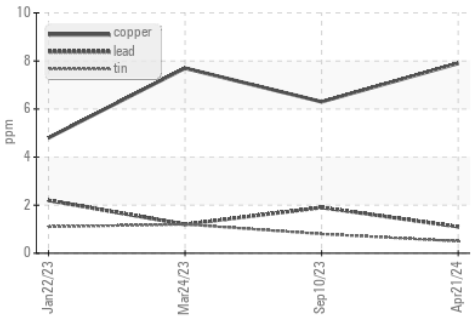
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	▲ **8.2**	10.7	10.6

GRAPHS

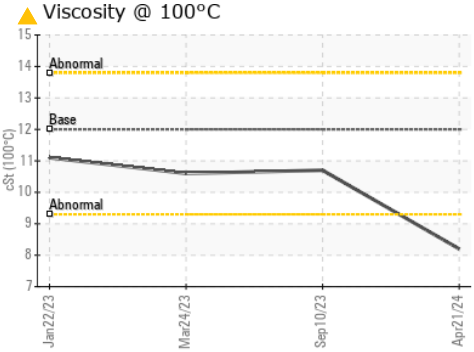
Ferrous Alloys



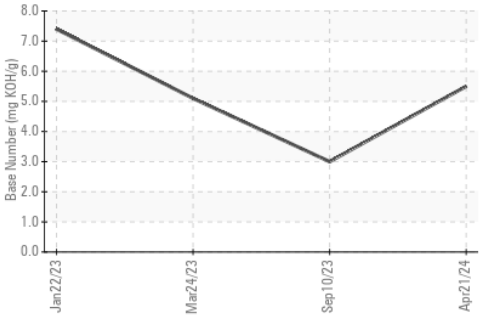
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0114788 **Received** : 10 May 2024
Lab Number : 06175291 **Tested** : 15 May 2024
Unique Number : 11021344 **Diagnosed** : 15 May 2024 - Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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)

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