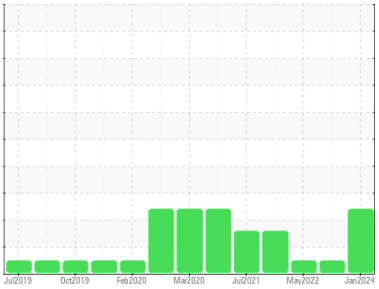
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
L-55
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a high amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0118530**	PCA0016744	PCA0016939
Sample Date		Client Info		**31 Jan 2024**	18 Jul 2022	16 May 2022
Machine Age	hrs	Client Info		**15606**	10257	9628
Oil Age	hrs	Client Info		**500**	250	300
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	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	**9**	31	29
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	3	5
Lead	ppm	ASTM D5185m	>40	**1**	2	1
Copper	ppm	ASTM D5185m	>330	**<1**	10	18
Tin	ppm	ASTM D5185m	>15	**<1**	2	1
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**<1**	2	3
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**52**	56	56
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**775**	887	887
Calcium	ppm	ASTM D5185m		**880**	1155	1296
Phosphorus	ppm	ASTM D5185m		**743**	982	1075
Zinc	ppm	ASTM D5185m		**1014**	1227	1360
Sulfur	ppm	ASTM D5185m		**2545**	2968	3057

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**3**	6	6
Sodium	ppm	ASTM D5185m		**0**	2	2
Potassium	ppm	ASTM D5185m	>20	**2**	<1	<1
Fuel	%	ASTM D3524	>5	**18.4**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.9	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**6.6**	9.5	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.7**	21.8	19.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**12.4**	16.1	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.09**	8.87	8.67

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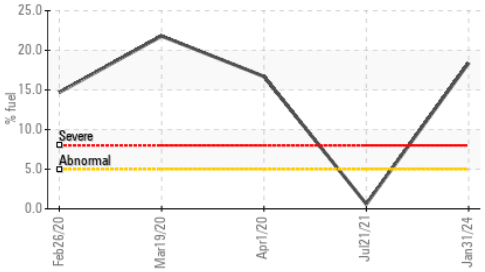
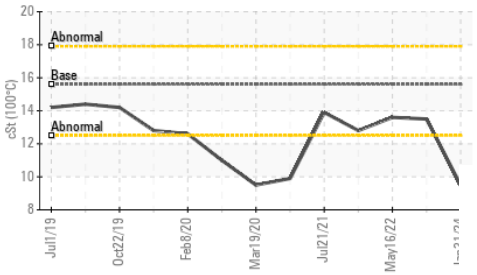
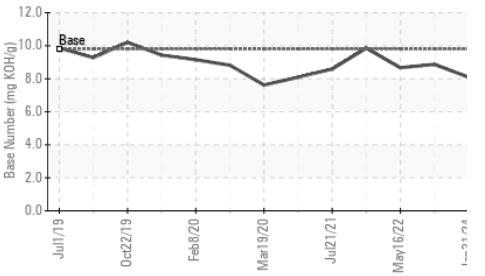
Fuel Dilution



Viscosity @ 100°C



Base Number

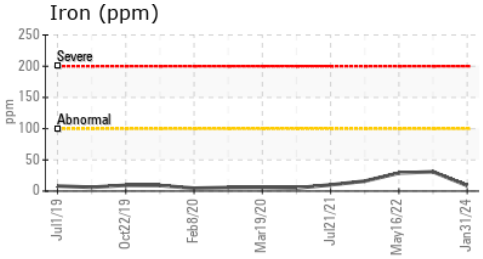


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

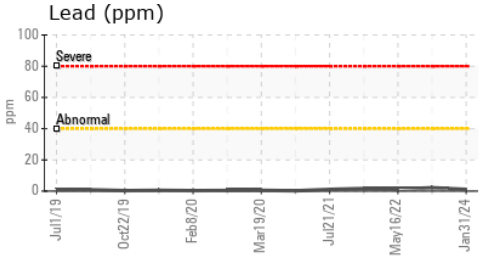
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	▲ **9.5**	13.5	13.6

GRAPHS

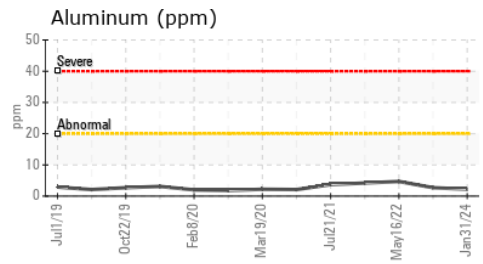
Iron (ppm)



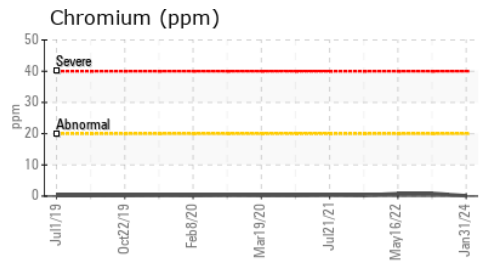
Lead (ppm)



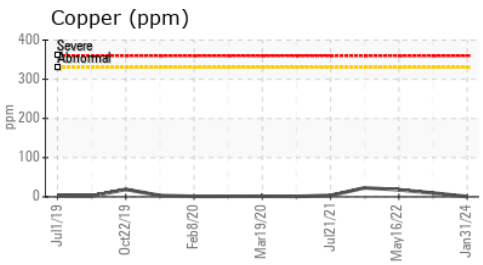
Aluminum (ppm)



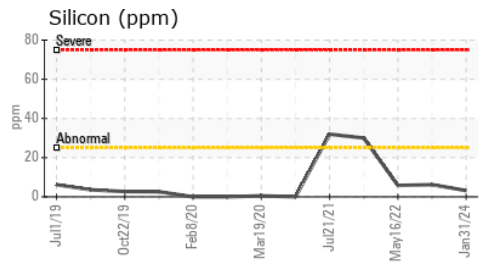
Chromium (ppm)



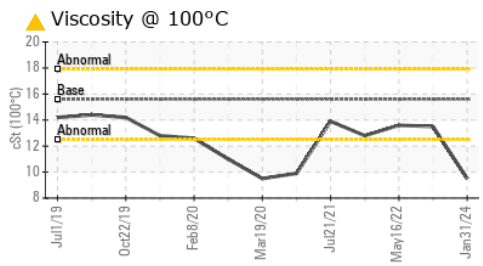
Copper (ppm)



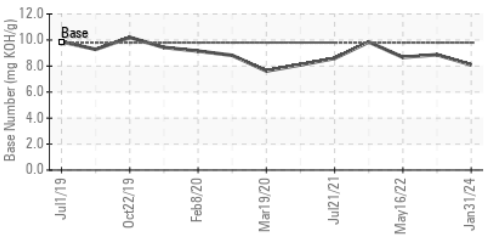
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0118530
Lab Number : 06083827
Unique Number : 10871272
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Received : 08 Feb 2024
Tested : 13 Feb 2024
Diagnosed : 13 Feb 2024 - Jonathan Hester

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)

SCRAP METAL SERVICES (SMS Mill Services LLC)
1500 COMMERCIAL AVE
MINGO JUNCTION, OH
US 43938
Contact: FRANK NALLY
fnally@scrapmetalservices.com
T:
F: