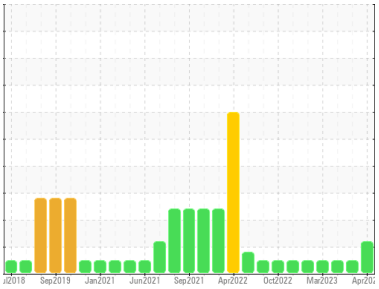
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Area
Off-Road
Machine Id
E64
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
The aluminum level is abnormal. All other component wear rates are normal.

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

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0109897**	PCA0090499	PCA0090494
Sample Date		Client Info		**10 Apr 2024**	20 Sep 2023	26 Jul 2023
Machine Age	hrs	Client Info		**14593**	14007	14007
Oil Age	hrs	Client Info		**10900**	10314	10822
Oil Changed		Client Info		**N/A**	N/A	N/A
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**	29	54
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	0	0
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	▲ **32**	1	<1
Lead	ppm	ASTM D5185m	>40	**3**	<1	9
Copper	ppm	ASTM D5185m	>330	**2**	1	2
Tin	ppm	ASTM D5185m	>15	**1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**11**	8	14
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**67**	62	74
Manganese	ppm	ASTM D5185m	0	**<1**	0	<1
Magnesium	ppm	ASTM D5185m	1010	**1092**	980	1131
Calcium	ppm	ASTM D5185m	1070	**1315**	1216	1354
Phosphorus	ppm	ASTM D5185m	1150	**1240**	1027	1144
Zinc	ppm	ASTM D5185m	1270	**1471**	1310	1460
Sulfur	ppm	ASTM D5185m	2060	**4063**	3627	3754

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**11**	7	10
Sodium	ppm	ASTM D5185m		**1**	3	2
Potassium	ppm	ASTM D5185m	>20	**3**	3	0
Fuel	%	ASTM D3524	>5	**1.6**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.5**	1	1.4
Nitration	Abs/cm	*ASTM D7624	>20	**8.2**	8.1	10.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.5**	20.9	24.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.2**	16.0	20.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.94**	10.17	8.96

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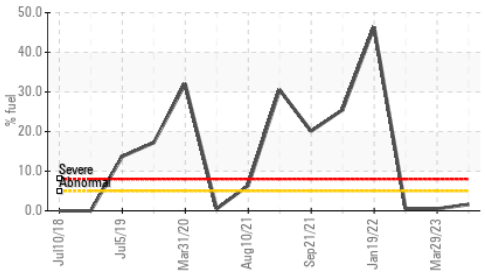
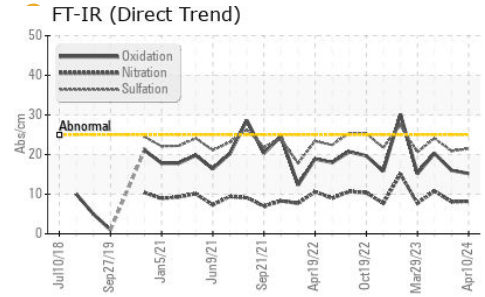
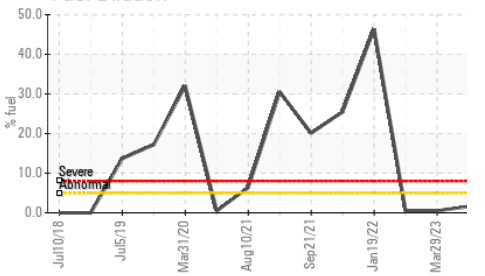
Fuel Dilution



FT-IR (Direct Trend)



Fuel Dilution



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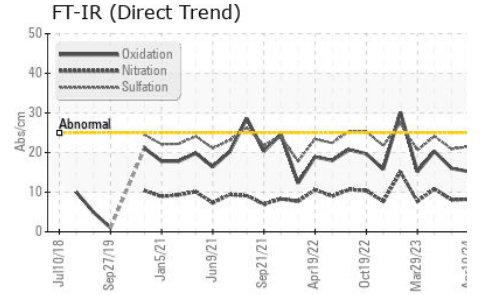
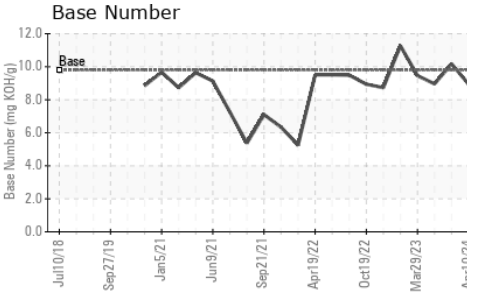


Base Number

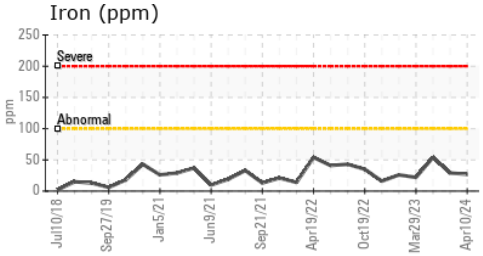


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

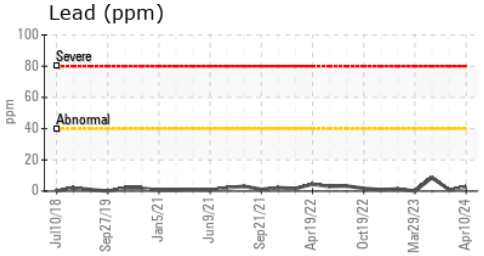
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**12.1**	12.6	13.1

GRAPHS

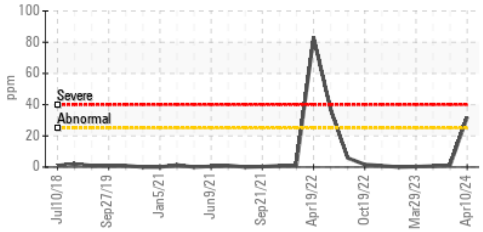
Iron (ppm)



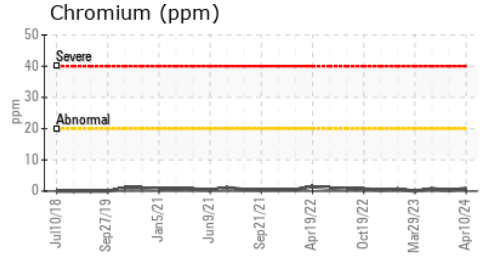
Lead (ppm)



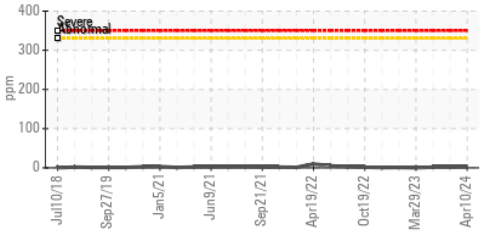
Aluminum (ppm)



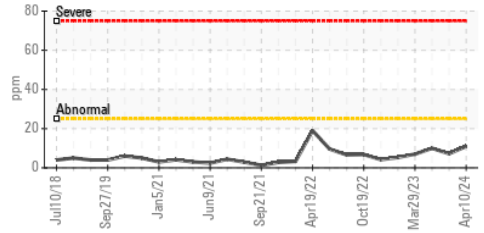
Chromium (ppm)



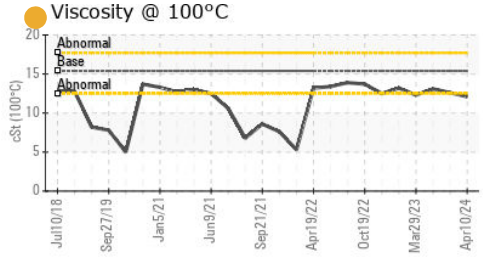
Copper (ppm)



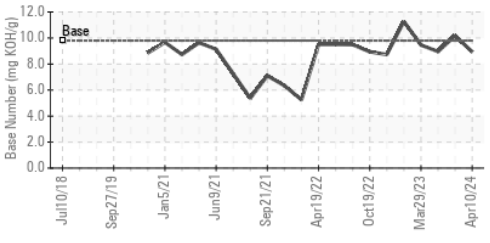
Silicon (ppm)



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. : PCA0109897
Lab Number : 06147562
Unique Number : 10977640
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Received : 12 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 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)

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Report Id: WINTAU [WUSCAR] 06147562 (Generated: 04/17/2024 11:56:01) Rev: 1

Submitted By: MATT MANOLI