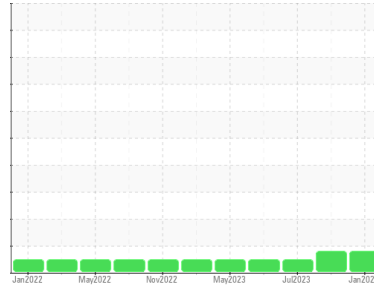


OIL ANALYSIS REPORT



Area
Off-Road
Machine Id
E453
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



DIAGNOSIS

- Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor.
- Wear**
Cylinder, crank, or cam shaft wear is indicated.
- Contamination**
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		PCA0090800	PCA0090498	PCA0090490
Sample Date	Client Info		02 Jan 2024	20 Sep 2023	19 Jul 2023
Machine Age	hrs	Client Info	10810	10195	9879
Oil Age	hrs	Client Info	10810	10195	9879
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	MARGINAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	▲ 2.5	<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	▲ 164	49	107
Chromium	ppm	ASTM D5185m >20	2	<1	1
Nickel	ppm	ASTM D5185m >2	<1	0	<1
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	3	1	2
Lead	ppm	ASTM D5185m >40	<1	<1	<1
Copper	ppm	ASTM D5185m >330	1	2	1
Tin	ppm	ASTM D5185m >15	1	0	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	6	7	5
Barium	ppm	ASTM D5185m 0	0	0	2
Molybdenum	ppm	ASTM D5185m 60	62	55	64
Manganese	ppm	ASTM D5185m 0	<1	0	<1
Magnesium	ppm	ASTM D5185m 1010	918	884	910
Calcium	ppm	ASTM D5185m 1070	1103	1143	1149
Phosphorus	ppm	ASTM D5185m 1150	1027	972	1046
Zinc	ppm	ASTM D5185m 1270	1219	1239	1257
Sulfur	ppm	ASTM D5185m 2060	3100	3582	3349

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	5	6
Sodium	ppm	ASTM D5185m	17	5	4
Potassium	ppm	ASTM D5185m >20	3	4	2

INFRA-RED

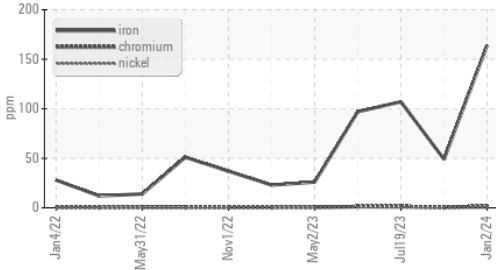
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.4	0.3
Nitration	Abs/cm	*ASTM D7624 >20	8.1	7.9	8.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.5	19.0	17.8

FLUID DEGRADATION

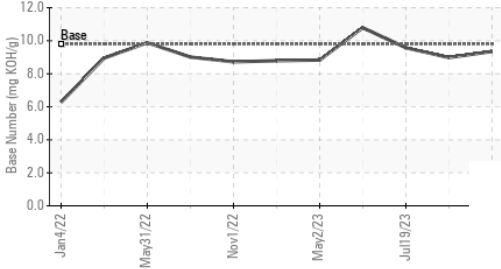
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	14.5	14.5	14.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.35	8.98	9.57

OIL ANALYSIS REPORT

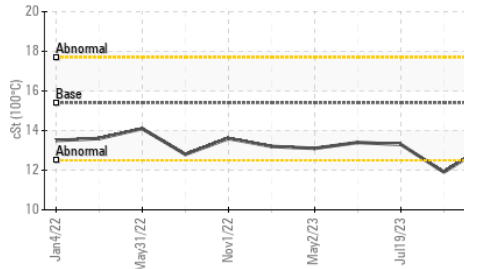
▲ Ferrous Alloys



Base Number



Viscosity @ 100°C

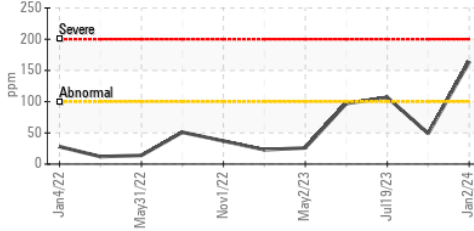


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

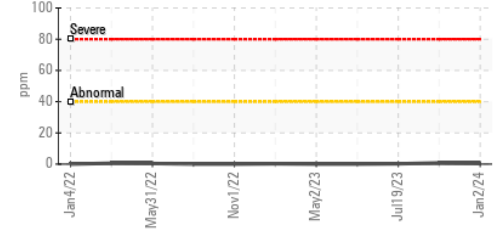
PARAMETER	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	11.9

GRAPHS

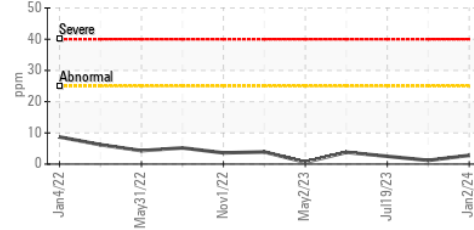
▲ Iron (ppm)



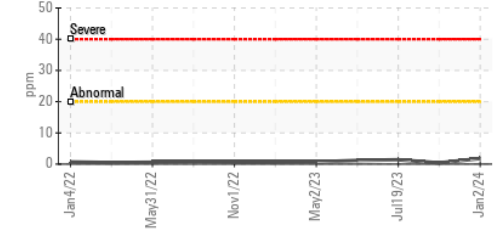
Lead (ppm)



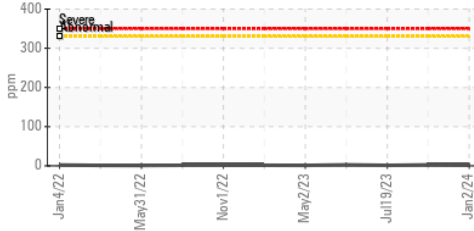
Aluminum (ppm)



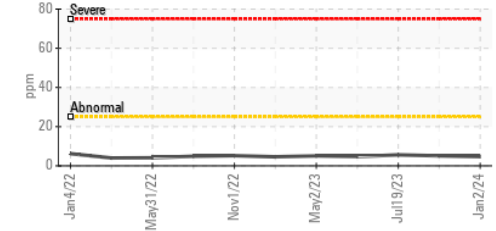
Chromium (ppm)



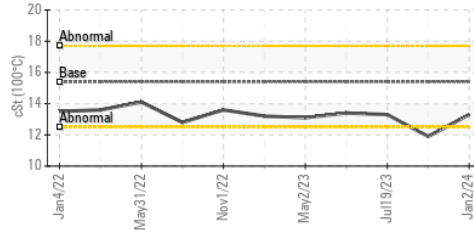
Copper (ppm)



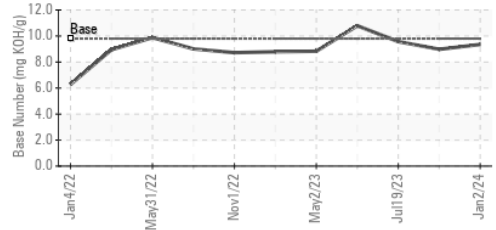
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : PCA0090800
 Lab Number : 06051089
 Unique Number : 10817038
 Test Package : MOB 2
 Recieved : 04 Jan 2024
 Diagnosed : 05 Jan 2024
 Diagnostician : Sean Felton

WIN Waste Innovations - Shop # - Taunton
 565 WINTHROP ST
 TAUNTON, MA
 US 02780
 Contact: Dave Wilson
 dwilson@win-waste.com

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)

T:
F: