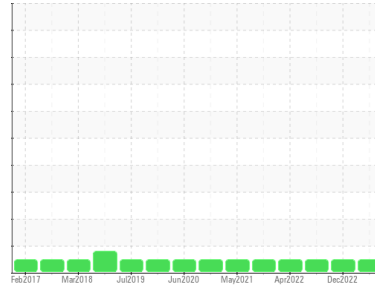


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
STERLING 155-18

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

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		PCA0106844	PCA0078544	PCA0070771
Sample Date	Client Info		10 Oct 2023	22 Dec 2022	08 Sep 2022
Machine Age	mls	Client Info	412793	399500	389878
Oil Age	mls	Client Info	10000	9500	17000
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >75	15	20	39
Chromium	ppm	ASTM D5185m >4	<1	1	2
Nickel	ppm	ASTM D5185m >5	<1	0	0
Titanium	ppm	ASTM D5185m >2	<1	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >54	4	2	4
Lead	ppm	ASTM D5185m >20	2	5	24
Copper	ppm	ASTM D5185m >240	4	9	11
Tin	ppm	ASTM D5185m >5	<1	<1	2
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	8	4	6
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 60	65	65	68
Manganese	ppm	ASTM D5185m 0	0	<1	<1
Magnesium	ppm	ASTM D5185m 1010	991	1008	1026
Calcium	ppm	ASTM D5185m 1070	1101	1174	1256
Phosphorus	ppm	ASTM D5185m 1150	1079	1063	1092
Zinc	ppm	ASTM D5185m 1270	1302	1303	1382
Sulfur	ppm	ASTM D5185m 2060	3808	3718	3221

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >35	10	6	9
Sodium	ppm	ASTM D5185m	5	5	4
Potassium	ppm	ASTM D5185m >20	3	<1	<1

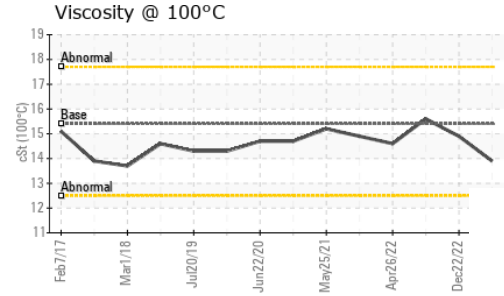
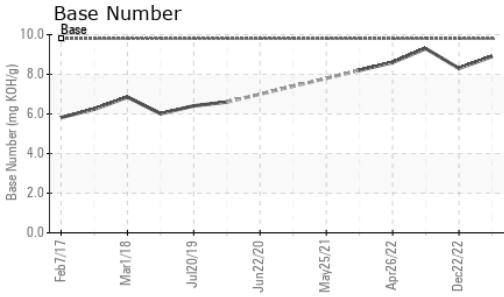
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.4	1.7
Nitration	Abs/cm	*ASTM D7624 >20	6.5	12.0	9.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.9	24.6	22.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.0	23.4	14.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.9	8.3	9.3

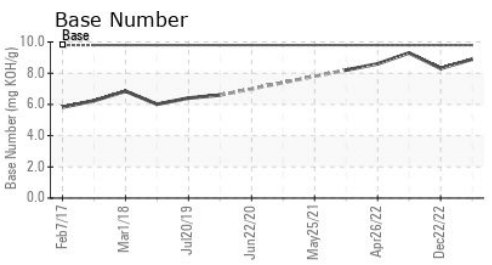
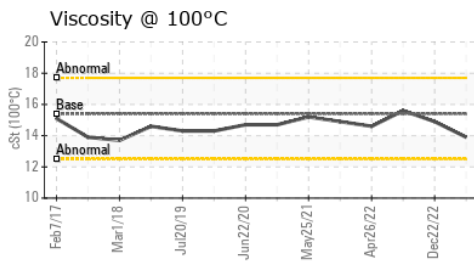
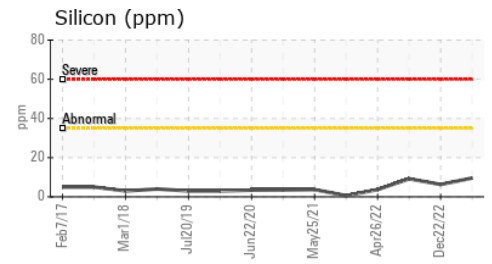
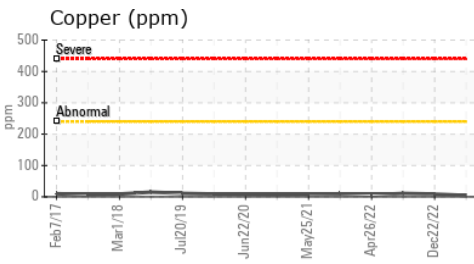
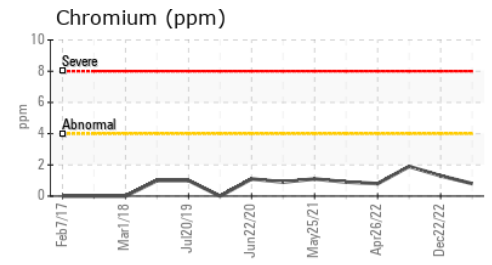
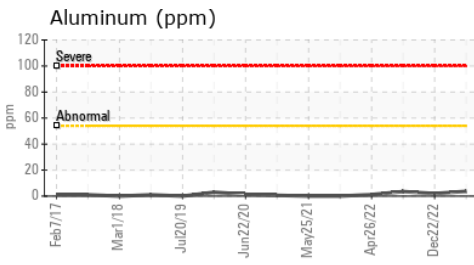
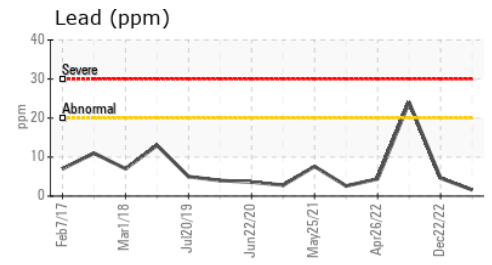
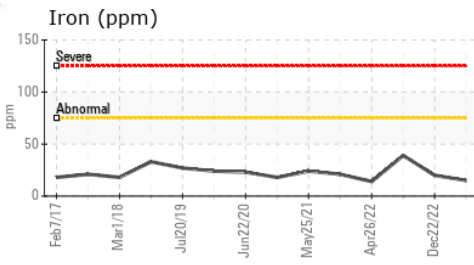
OIL ANALYSIS REPORT



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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.9	15.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0106844 **Received** : 01 Nov 2023
Lab Number : 05995404 **Diagnosed** : 02 Nov 2023
Unique Number : 10723764 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

GE MARSHALL EXCAVATION
 1351 JOLIET RD
 VALPARAISO, IN
 US 46385
 Contact: MARK STEFFEL
 mark.steffel@gemarshall.com
 T:
 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)