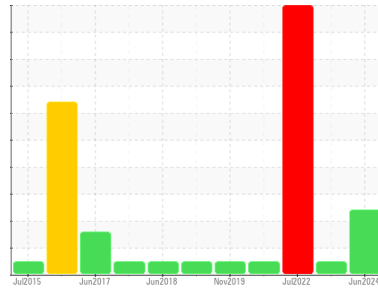


# OIL ANALYSIS REPORT

Area  
**G. LOPES CONSTRUCTION INC./Off-Road**  
Machine Id  
**S33**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

Sample Rating Trend



## DIAGNOSIS

**Recommendation**  
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

**Wear**  
All component wear rates are normal.

**Contamination**  
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

**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	<b>PCA0109704</b>	PCA0110067	PCA0066515
Sample Date	Client Info	<b>18 Jun 2024</b>	12 Mar 2024	05 Jul 2022
Machine Age	hrs	<b>7023</b>	7023	6939
Oil Age	hrs	<b>6814</b>	6898	125
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	NORMAL	SEVERE

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	<b>31</b>	43	▲ 695
Chromium	ppm ASTM D5185m >20	<b>3</b>	4	▲ 47
Nickel	ppm ASTM D5185m >4	<b>0</b>	<1	0
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	<1	1
Silver	ppm ASTM D5185m >3	<b>0</b>	0	<1
Aluminum	ppm ASTM D5185m >20	<b>6</b>	6	● 21
Lead	ppm ASTM D5185m >40	<b>0</b>	1	3
Copper	ppm ASTM D5185m >330	<b>3</b>	4	15
Tin	ppm ASTM D5185m >15	<b>0</b>	<1	3
Antimony	ppm ASTM D5185m	<b>---</b>	---	---
Vanadium	ppm ASTM D5185m	<b>0</b>	<1	1
Cadmium	ppm ASTM D5185m	<b>0</b>	<1	<1

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>4</b>	4	19
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>62</b>	58	76
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	7
Magnesium	ppm ASTM D5185m 1010	<b>1016</b>	871	1084
Calcium	ppm ASTM D5185m 1070	<b>1216</b>	1085	1336
Phosphorus	ppm ASTM D5185m 1150	<b>1051</b>	960	1079
Zinc	ppm ASTM D5185m 1270	<b>1322</b>	1145	1307
Sulfur	ppm ASTM D5185m 2060	<b>3497</b>	3059	3670

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>▲ 35</b>	11	▲ 48
Sodium	ppm ASTM D5185m	<b>18</b>	18	12
Potassium	ppm ASTM D5185m >20	<b>9</b>	2	3

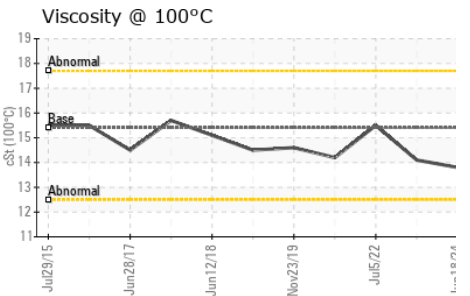
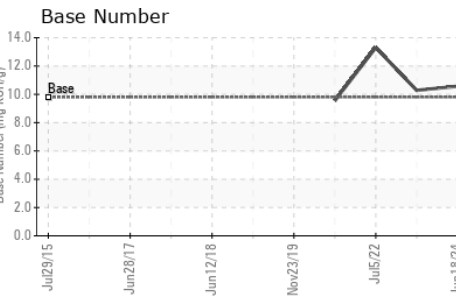
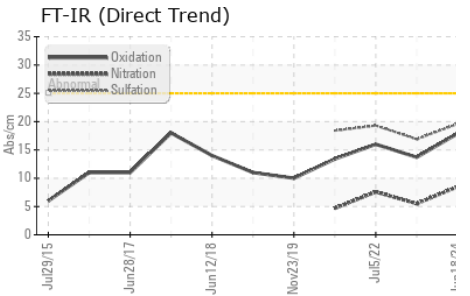
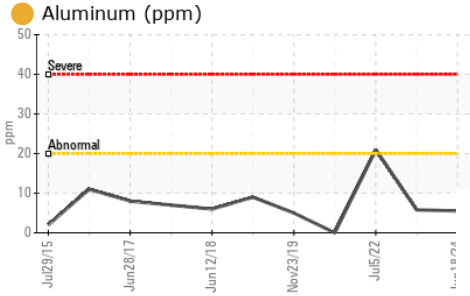
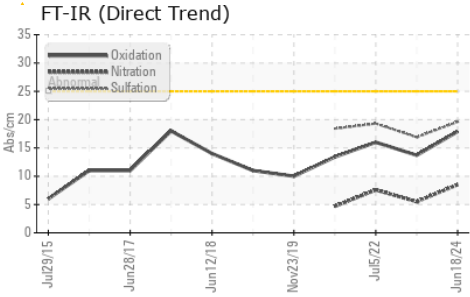
## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.1</b>	0.1	0.2
Nitration	Abs/cm *ASTM D7624 >20	<b>8.5</b>	5.5	7.6
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>19.6</b>	16.9	19.3

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>17.9</b>	13.7	16.0
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>10.57</b>	10.28	13.3

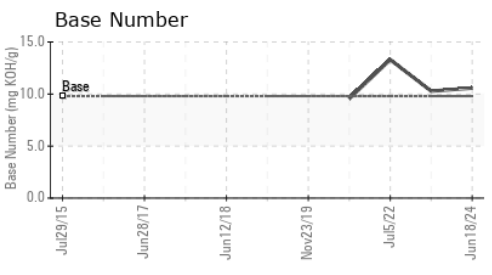
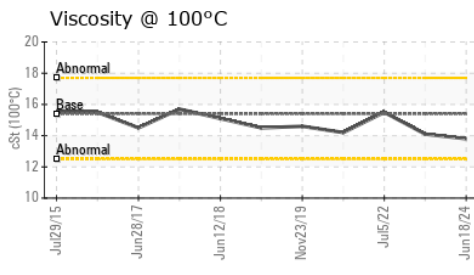
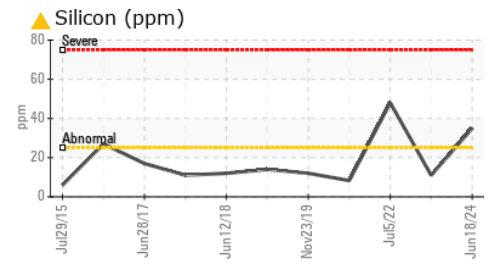
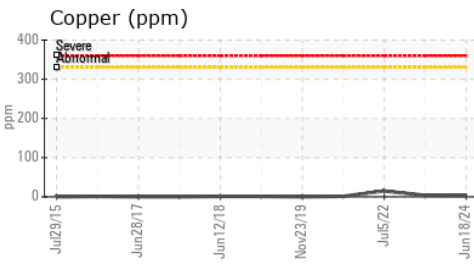
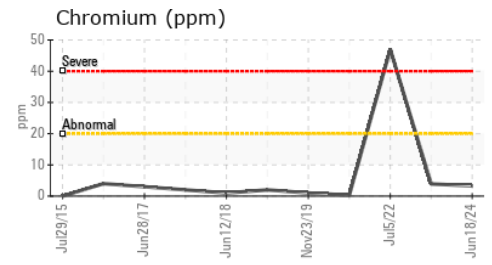
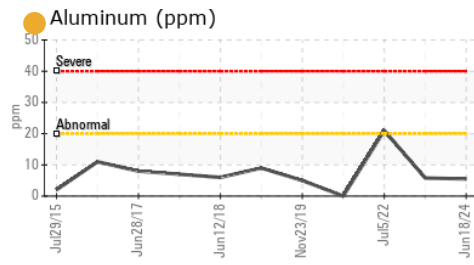
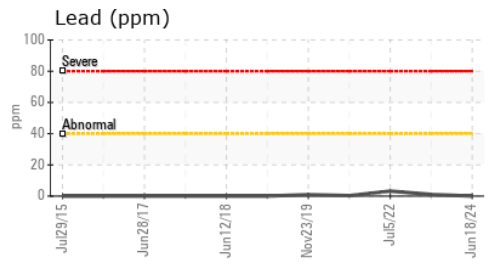
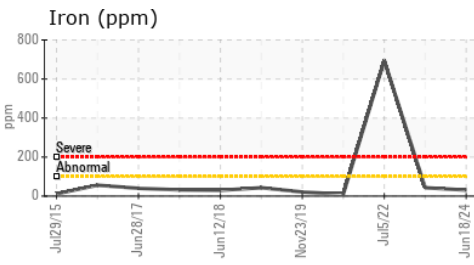
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.1	15.5

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0109704  
**Lab Number** : 06215931  
**Unique Number** : 11088795  
**Test Package** : MOB 2

**Received** : 20 Jun 2024  
**Tested** : 22 Jun 2024  
**Diagnosed** : 23 Jun 2024 - Don Baldrige

**G LOPES CONSTRUCTION**  
 565 WINTHROP ST  
 TAUNTON, MA  
 US 02780  
 Contact: BUTCH MCGRATH  
 bmcgrath@glopes.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)