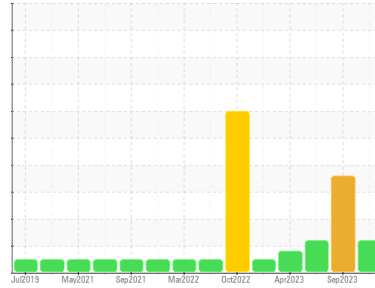




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**401024**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### Recommendation

Check for low coolant level. The oil 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

Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. 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 acceptable for the time in service (see recommendation).

## SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	<b>GFL0099582</b>	GFL0091615	GFL0077641	
Sample Date	Client Info	<b>21 Nov 2023</b>	13 Sep 2023	15 Jun 2023	
Machine Age	kms	Client Info	<b>537126</b>	0	514676
Oil Age	kms	Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>Changed</b>	Changed	N/A	
Sample Status		<b>ATTENTION</b>	ATTENTION	ATTENTION	

## 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

## WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185(m)	>110	<b>26</b>	36	27
Chromium	ppm	ASTM D5185(m)	>4	<b>1</b>	2	2
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>4</b>	4	2
Lead	ppm	ASTM D5185(m)	>45	<b>&lt;1</b>	2	<1
Copper	ppm	ASTM D5185(m)	>85	<b>&lt;1</b>	1	<1
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185(m)	0	<b>1</b>	1	1
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>65</b>	61	62
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>915</b>	870	914
Calcium	ppm	ASTM D5185(m)	1070	<b>1022</b>	940	1018
Phosphorus	ppm	ASTM D5185(m)	1150	<b>948</b>	934	987
Zinc	ppm	ASTM D5185(m)	1270	<b>1151</b>	1057	1139
Sulfur	ppm	ASTM D5185(m)	2060	<b>2389</b>	2257	2289
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

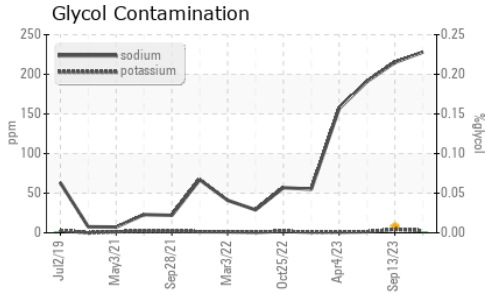
method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185(m)	>30	<b>5</b>	7	5
Sodium	ppm	ASTM D5185(m)		<b>228</b>	215	191
Potassium	ppm	ASTM D5185(m)	>20	<b>3</b>	4	1
Glycol	%	ASTM D7922*		<b>0.0</b>	0.013	0.0

## INFRA-RED

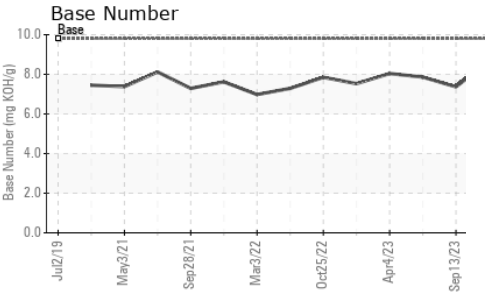
method	limit/base	current	history1	history2		
Soot %	%	ASTM D7844*	>3	<b>0.7</b>	0.7	0.5
Nitration	Abs/cm	ASTM D7624*	>20	<b>10.8</b>	12.0	9.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.4</b>	24.4	21.9



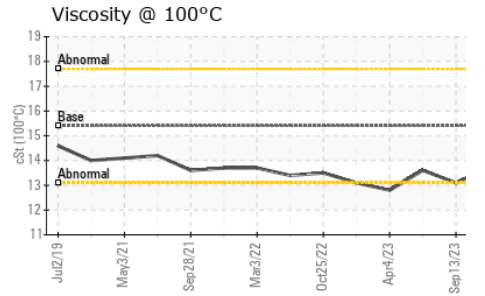
# OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>19.7</b>	24.8	19.6
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	<b>8.66</b>	7.37	7.86

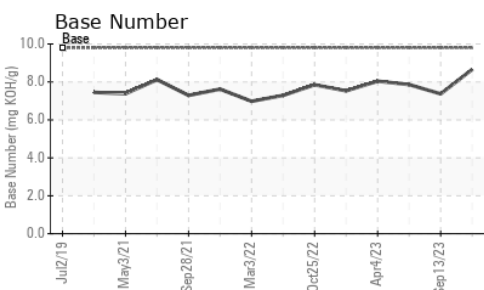
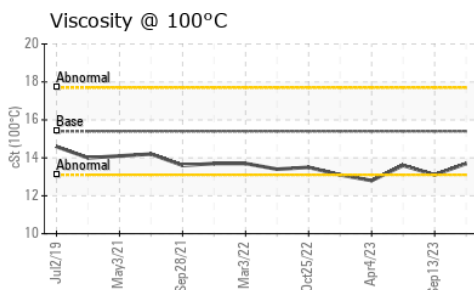
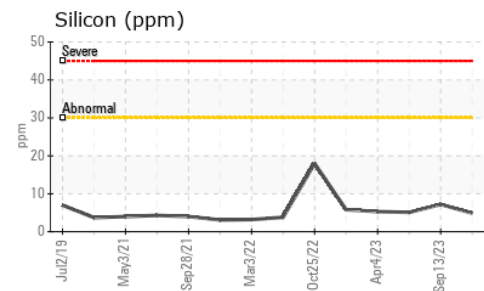
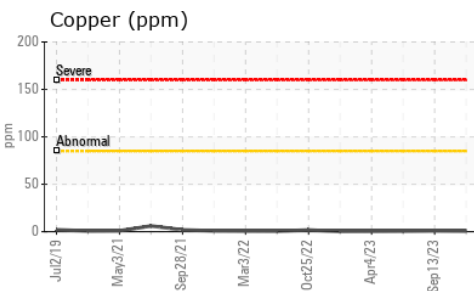
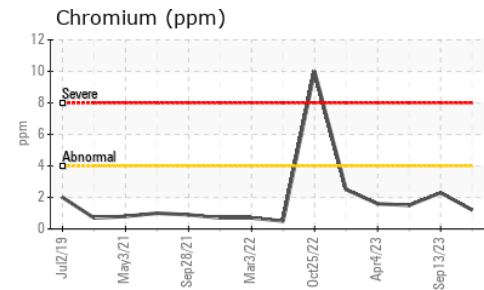
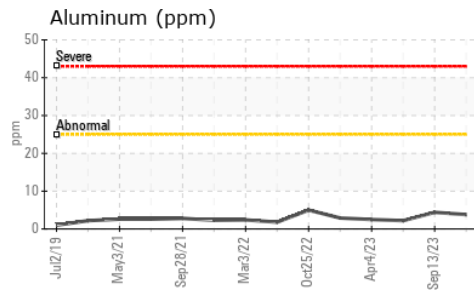
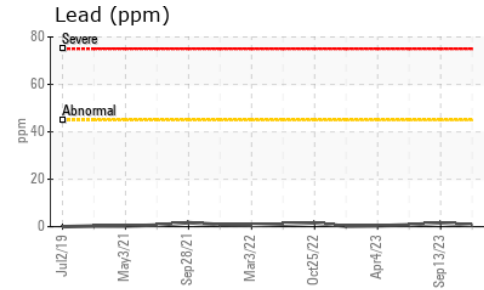
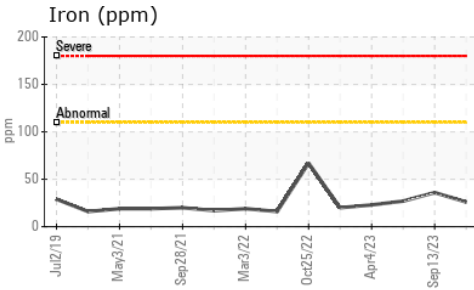


VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>13.7</b>	13.1	13.6

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County  
**Sample No.** : GFL0099582 **Received** : 04 Dec 2023  
**Lab Number** : 02600415 **Diagnosed** : 05 Dec 2023  
**Unique Number** : 5685495 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 2 ( Additional Tests: Glycol )

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.  
 Contact: GFL Calgary calgarymaintenance@gflenv.com  
 T: (403)369-6163