

# **OIL ANALYSIS REPORT**

## Sample Rating Trend

# **NORMAL**



727166 Component **Diesel Engine** 

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





## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

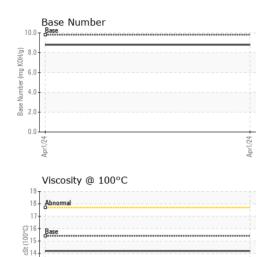
## **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number   Client Info   GFL0066293	N SHP 15W40 (-	GAL)			Apr2024		
Client Info	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   0	Sample Number		Client Info		GFL0066293		
Oil Changed	Sample Date		Client Info		01 Apr 2024		
Coli   Changed   Client Info   N/A	Machine Age	hrs	Client Info		0		
CONTAMINATION   method   limit/base   current   history1   history2	Oil Age	hrs	Client Info		0		
Fue	Oil Changed		Client Info		N/A		
Water	Sample Status				NORMAL		
Water         WC Method         >0.2         NEG             Glycol         WC Method         Imitibase         current         history1         history2           WEAR METALS         method         limitibase         current         history1         history2           Iron         ppm         ASTM D5185m         >80         20             Chromium         ppm         ASTM D5185m         >5         <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >80         20             Chromium         ppm         ASTM D5185m         >5         <1	Water		WC Method	>0.2	NEG		
Chromium	Glycol		WC Method		NEG		
Chromium	WEAR METAL	_S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>80	20		
Titanium	Chromium	ppm	ASTM D5185m	>5	<1		
Silver	Nickel	ppm	ASTM D5185m	>2	0		
Aluminum	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper         ppm         ASTM D5185m         >150         <1             Tin         ppm         ASTM D5185m         >5         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         4             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         0         4             Manganese         ppm         ASTM D5185m         0         <1	Aluminum	ppm	ASTM D5185m	>30	2		
Tin	Lead	ppm	ASTM D5185m	>30	0		
Vanadium         ppm         ASTM D5185m         <1             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         4             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         0         58             Manganese         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         1070         1176             Magnesium         ppm         ASTM D5185m         1070         1176             Calcium         ppm         ASTM D5185m         1070         1176             Phosphorus         ppm         ASTM D5185m         1270         1210             Sulfur         ppm         ASTM D5185m         2060         3661	Copper	ppm	ASTM D5185m	>150	<1		
ADDITIVES	Tin	ppm	ASTM D5185m	>5	0		
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         4             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         60         58             Manganese         ppm         ASTM D5185m         0         <1	Vanadium	ppm	ASTM D5185m		<1		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         60         58             Manganese         ppm         ASTM D5185m         0         <1	Boron	ppm	ASTM D5185m	0	4		
Manganese         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         1010         979             Calcium         ppm         ASTM D5185m         1070         1176             Phosphorus         ppm         ASTM D5185m         1150         974             Zinc         ppm         ASTM D5185m         1270         1210             Sulfur         ppm         ASTM D5185m         2060         3661             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5             Sodium         ppm         ASTM D5185m         >20         5             Potassium         ppm         ASTM D5185m         >20         <1	Barium	ppm	ASTM D5185m	0	0		
Magnesium         ppm         ASTM D5185m         1010         979             Calcium         ppm         ASTM D5185m         1070         1176             Phosphorus         ppm         ASTM D5185m         1150         974             Zinc         ppm         ASTM D5185m         1270         1210             Sulfur         ppm         ASTM D5185m         2060         3661             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5             Sodium         ppm         ASTM D5185m         >20         <1	Molybdenum	ppm	ASTM D5185m	60	58		
Calcium         ppm         ASTM D5185m         1070         1176             Phosphorus         ppm         ASTM D5185m         1150         974             Zinc         ppm         ASTM D5185m         1270         1210             Sulfur         ppm         ASTM D5185m         2060         3661             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5             Sodium         ppm         ASTM D5185m         >20         5             Potassium         ppm         ASTM D5185m         >20         <1	Manganese	ppm	ASTM D5185m	0	<1		
Phosphorus	Magnesium	ppm	ASTM D5185m	1010	979		
Zinc	Calcium	ppm	ASTM D5185m	1070	1176		
Sulfur         ppm         ASTM D5185m         2060         3661             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5             Sodium         ppm         ASTM D5185m         20         <1             Potassium         ppm         ASTM D5185m         >20         <1             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         7.8             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.7	Phosphorus	ppm	ASTM D5185m	1150	974		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5             Sodium         ppm         ASTM D5185m         1             Potassium         ppm         ASTM D5185m         >20         <1	Zinc	ppm	ASTM D5185m	1270	1210		
Silicon   ppm   ASTM D5185m   >20   5	Sulfur		ASTM D5185m	2060	3661		
Sodium	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         <1             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         7.8             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.7		ppm		>20	5		
INFRA-RED	Sodium	ppm	ASTM D5185m		1		
Soot %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         7.8             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.7	Potassium	ppm	ASTM D5185m	>20	<1		
Nitration         Abs/cm         *ASTM D7624         >20         7.8             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.7	INFRA-RED	_	method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.7	Soot %	%	*ASTM D7844	>3	0.6		
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 15.7	Nitration	Abs/cm	*ASTM D7624	>20	7.8		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7		
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.8	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7		
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.8		



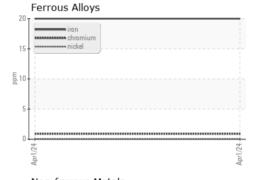
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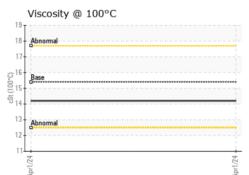
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		

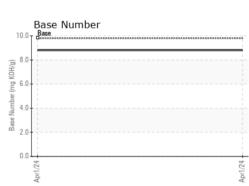
FLUID PROPE	ERITES	method	limit/base		nistory1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2		

## **GRAPHS**



<sup>10</sup> T	Non-ferrous Metals	
8 -	nnanananan lead	
6-		
4-		
2-		
οL		Apr. 17.2









Certificate L2367

Laboratory Sample No.

Lab Number : 06136240 Unique Number : 10955705 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0066293 Received : 02 Apr 2024

**Tested** : 03 Apr 2024 Diagnosed : 03 Apr 2024 - Wes Davis

GFL Environmental - 938 - Hager City W9724 WIS-35 HAGER CITY, WI US 54014

Contact: ANDY KANE

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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