

# **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL



Machine Id 422054 Component

**Diesel Engine** 

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

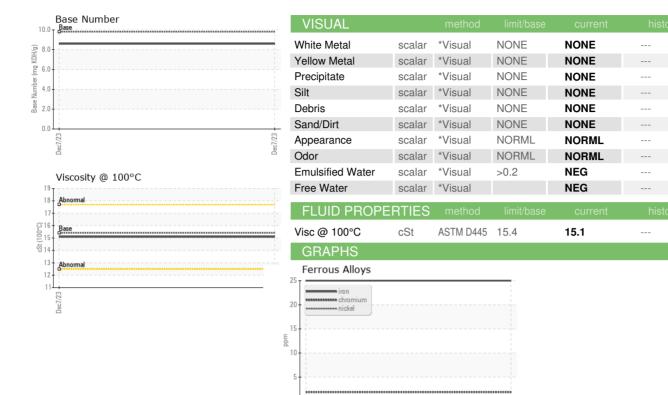
## **Fluid Condition**

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

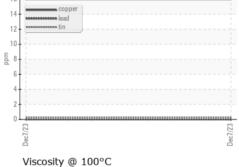
SAMPLE INFORMATION   method   limit/base   current   history1   history2   sample Number   Client Info   O7 Dec 2023         Machine Age   hrs   Client Info   O							<u>'</u>
Cample Number   Client Info   GFL0093849   Client Info   O7 Dec 2023   Client Info   O7 Dec 2023   Client Info   O   C	AL)				Dec2023		
Client Info	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		GFL0093849		
Dil Changed	Sample Date		Client Info		07 Dec 2023		
Clichanged   Client Info   N/A       Client Info   N/A   NORMAL       Client Info   NORMAL       Client Info   NORMAL       Client Info   Normal   Contact   Normal   Client   Client   Normal   Client   C	Machine Age	hrs	Client Info		0		
CONTAMINATION   method   limit/base   current   history1   history2	Oil Age	hrs	Client Info		0		
CONTAMINATION   method   limit/base   current   history1   history2	Oil Changed		Client Info		N/A		
Valer	Sample Status				NORMAL		
WEAR METALS	CONTAMINAT	TION	method	limit/base	current	history1	history2
WEAR METALS	uel		WC Method	>5	<1.0		
WEAR METALS         method         limit/base         current         history1         history2           Fron         ppm         ASTM D5185m         >100         25             Chromium         ppm         ASTM D5185m         >20         2             Sickel         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         3         0             Aluminum         ppm         ASTM D5185m         >20         7             Aluminum         ppm         ASTM D5185m         >20         7             Lead         ppm         ASTM D5185m         >20         7             Lead         ppm         ASTM D5185m         >20         16             Copper         ppm         ASTM D5185m         0         0             Cadmium         ppm         ASTM D5185m         0         0             ADDITIVES         method         limit/base         current         history1	Vater		WC Method	>0.2	NEG		
Chromium	Glycol		WC Method		NEG		
ASTM D5185m	WEAR METAL	_S	method	limit/base	current	history1	history2
Side   Pom   ASTM D5185m   Pom   Pom   ASTM D5185m   Pom   Pom   ASTM D5185m   Pom	on	ppm	ASTM D5185m	>100	25		
Silver	Chromium	ppm	ASTM D5185m	>20	2		
Silver	Nickel	ppm	ASTM D5185m	>4	0		
Ast   Ast	Titanium	ppm	ASTM D5185m		0		
December   December	Silver	ppm	ASTM D5185m	>3	0		
Description	Aluminum	ppm	ASTM D5185m	>20	7		
Sin	.ead	ppm	ASTM D5185m	>40	0		
Anadium	Copper	ppm	ASTM D5185m	>330	16		
ADDITIVES	īn	ppm	ASTM D5185m	>15	<1		
ADDITIVES	/anadium	ppm	ASTM D5185m		0		
Soron   ppm   ASTM D5185m   0   2	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         60         57             Manganese         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         1010         946             Calcium         ppm         ASTM D5185m         1070         1047             Phosphorus         ppm         ASTM D5185m         1150         955             Zinc         ppm         ASTM D5185m         1270         1264             Zinc         ppm         ASTM D5185m         2060         2732             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Goldium         ppm         ASTM D5185m         >20         3             Potassium         ppm         ASTM D5185m         >20         3             Soot %         *ASTM D7844         >3	Boron	ppm	ASTM D5185m	0	2		
Manganese         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         1010         946             Calcium         ppm         ASTM D5185m         1070         1047             Phosphorus         ppm         ASTM D5185m         1150         955             Zinc         ppm         ASTM D5185m         1270         1264             Sulfur         ppm         ASTM D5185m         2060         2732             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Godium         ppm         ASTM D5185m         >20         3             Potassium         ppm         ASTM D5185m         >20         3             Potassium         ppm         ASTM D5185m         >20         3             Soot %         *ASTM D7844         >3	Barium	ppm	ASTM D5185m	0	0		
Magnesium         ppm         ASTM D5185m         1010         946             Calcium         ppm         ASTM D5185m         1070         1047             Phosphorus         ppm         ASTM D5185m         1150         955             Zinc         ppm         ASTM D5185m         1270         1264             Sulfur         ppm         ASTM D5185m         2060         2732             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Potassium         ppm         ASTM D5185m         20         3             Potassium         ppm         ASTM D5185m         >20         3             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7414<	Nolybdenum	ppm	ASTM D5185m	60	57		
Calcium         ppm         ASTM D5185m         1 070         1047             Phosphorus         ppm         ASTM D5185m         1 150         955             Zinc         ppm         ASTM D5185m         1 270         1 264             Sulfur         ppm         ASTM D5185m         2060         2732             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Potassium         ppm         ASTM D5185m         1             Potassium         ppm         ASTM D5185m         >20         3             Potassium         ppm         ASTM D7844         >3         1.7             Soot %         %         *ASTM D7844         >3         1.7             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8             FLUID DEGRADATION         *ASTM D7414         >25	Manganese	ppm	ASTM D5185m	0	<1		
Phosphorus	/lagnesium	ppm	ASTM D5185m	1010	946		
Contamination   Contaminatio   Contamination   Contamination   Contamination   Contamination	Calcium	ppm	ASTM D5185m	1070	1047		
Sulfur         ppm         ASTM D5185m         2060         2732             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Bodium         ppm         ASTM D5185m         20         3             Potassium         ppm         ASTM D5185m         >20         3             INFRA-RED         method         limit/base         current         history1         history2           Goot %         %         *ASTM D7844         >3         1.7             Sulfration         Abs/cm         *ASTM D7624         >20         9.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.2	Phosphorus	ppm	ASTM D5185m	1150	955		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         1             Potassium         ppm         ASTM D5185m         >20         3             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.7             Sulfration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.2	inc	ppm	ASTM D5185m	1270	1264		
Solicon   ppm   ASTM D5185m   >25   4	Sulfur	ppm	ASTM D5185m	2060	2732		
Sodium         ppm         ASTM D5185m         1             Potassium         ppm         ASTM D5185m         >20         3             INFRA-RED         method         limit/base         current         history1         history2           Boot %         *ASTM D7844         >3         1.7             Sulfration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.2	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         3             INFRA-RED         method         limit/base         current         history1         history2           Soot %         *ASTM D7844         >3         1.7             Slitration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.2	Silicon	ppm	ASTM D5185m	>25	4		
Potassium         ppm         ASTM D5185m         >20         3             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.7             Sultration         Abs/cm         *ASTM D7624         >20         9.4             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.2	Sodium		ASTM D5185m		1		
Soot %	Potassium	ppm	ASTM D5185m	>20	3		
Abs/cm   *ASTM D7624   >20   9.4         Sulfation   Abs/.1mm   *ASTM D7415   >30   21.8         FLUID DEGRADATION   method   limit/base   current   history1   history2     Dividation   Abs/.1mm   *ASTM D7414   >25   16.2	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.2	Soot %	%	*ASTM D7844	>3	1.7		
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.8             FLUID DEGRADATION         method         limit/base         current         history1         history2           Dxidation         Abs/.1mm         *ASTM D7414         >25         16.2	Nitration	Abs/cm	*ASTM D7624	>20	9.4		
Oxidation Abs/.1mm *ASTM D7414 >25 <b>16.2</b>	Sulfation	Abs/.1mm	*ASTM D7415	>30			
	FLUID DEGRA	DATIO <u></u> N	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2		
	Base Number (BN)	mg KOH/g	ASTM D2896		8.6		

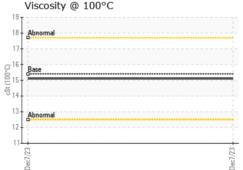


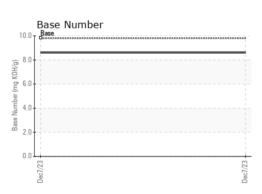
## **OIL ANALYSIS REPORT**



Non-ferrous Metals









Certificate L2367

Laboratory Sample No. Lab Number Unique Number Test Package : FLEET

: GFL0093849 : 06037519 : 10792748

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 18 Dec 2023 Recieved Diagnosed

: 19 Dec 2023 : Wes Davis Diagnostician

GFL Environmental - 952 - New London

E8257 WIS-54 NEW LONDON, WI

US 54961

Contact: MATTHEW TAYLOR

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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