

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id **226058** Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- 0

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

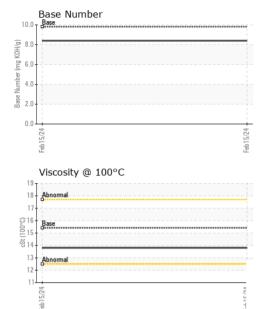
Fluid Condition

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

SAMPLE INFORMATION method limit/base current history1 history2 sample Number Client Info 15 Feb 2024 Machine Age hrs Client Info 9992							
Cample Number Client Info GFL0088660 Client Info Sample Date Client Info See 2024 Client Info See 2024	AL)				Feb2024		
Cample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		GFL0088660		
Dil Changed	Sample Date		Client Info		15 Feb 2024		
Client Info Not Change Client Info Not Change Client Info NORMAL CONTAMINATION	Machine Age	hrs	Client Info		9992		
CONTAMINATION method limit/base current history1 history2	Dil Age	hrs	Client Info		0		
CONTAMINATION	Oil Changed		Client Info		Not Changd		
Weight Wideling	Sample Status				NORMAL		
Water WC Method So.2 NEG Silycol WC Method NEG WC	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	uel		WC Method	>5	<1.0		
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >100 18 Chromium ppm ASTM D5185m >20 <1	Vater		WC Method	>0.2	NEG		
Chromium	Glycol		WC Method		NEG		
ASTM D5185m >20	WEAR METAL	.S	method	limit/base	current	history1	history2
Silver	ron	ppm	ASTM D5185m	>100	18		
Silver	Chromium	ppm	ASTM D5185m	>20	<1		
Silver	Nickel	ppm	ASTM D5185m	>2	0		
ASTM D5185m >25	itanium	ppm	ASTM D5185m	>2	0		
December December	Silver	ppm	ASTM D5185m	>2	<1		
Copper	Aluminum	ppm	ASTM D5185m	>25	4		
Academium	_ead	ppm	ASTM D5185m	>40	4		
Acade Acad	Copper	ppm	ASTM D5185m	>330	2		
ADDITIVES		ppm	ASTM D5185m	>15	<1		
ADDITIVES	/anadium	ppm	ASTM D5185m		0		
Soron ppm ASTM D5185m 0 4	Cadmium	ppm	ASTM D5185m		0		
Description	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 59 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 1010 798 Calcium ppm ASTM D5185m 1070 1032 Phosphorus ppm ASTM D5185m 1150 998 Zinc ppm ASTM D5185m 1270 1133 Zinc ppm ASTM D5185m 2060 3182 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Godium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 Soot % *ASTM D7844 >3	Boron	ppm	ASTM D5185m	0	4		
Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 1010 798 Calcium ppm ASTM D5185m 1070 1032 Phosphorus ppm ASTM D5185m 1150 998 Zinc ppm ASTM D5185m 1270 1133 Sulfur ppm ASTM D5185m 2060 3182 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Godium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3	Barium	ppm	ASTM D5185m	0	3		
Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 1010 798 Calcium ppm ASTM D5185m 1070 1032 Phosphorus ppm ASTM D5185m 1150 998 Zinc ppm ASTM D5185m 1270 1133 Sulfur ppm ASTM D5185m 2060 3182 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Goldium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 Rootium ppm ASTM D5185m	Molybdenum	ppm	ASTM D5185m	60	59		
Magnesium ppm ASTM D5185m 1010 798 Calcium ppm ASTM D5185m 1070 1032 Phosphorus ppm ASTM D5185m 1150 998 Zinc ppm ASTM D5185m 1270 1133 Sulfur ppm ASTM D5185m 2060 3182 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Sodium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 11.9 Sulfation Abs/.1mm *ASTM D7414 </td <td>-</td> <td></td> <td>ASTM D5185m</td> <td>0</td> <td>0</td> <td></td> <td></td>	-		ASTM D5185m	0	0		
Calcium ppm ASTM D5185m 1070 1032 Phosphorus ppm ASTM D5185m 1150 998 Pinc ppm ASTM D5185m 1270 1133 Sulfur ppm ASTM D5185m 2060 3182 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185m >25 7 Solium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 1 Sulfation Abs/:nm "ASTM D7415 >30 20.7 FLUID DEGRADATION method limit/base <t< td=""><td>/lagnesium</td><td></td><td>ASTM D5185m</td><td>1010</td><td>798</td><td></td><td></td></t<>	/lagnesium		ASTM D5185m	1010	798		
Phosphorus	-		ASTM D5185m	1070	1032		
Contamination State Stat	Phosphorus		ASTM D5185m	1150	998		
Sulfur ppm ASTM D5185m 2060 3182 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 Sodium ppm ASTM D5185m >20 6 Potassium ppm ASTM D5185m >20 6 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >3 1 Sulfration Abs/cm *ASTM D7624 >20 11.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.8			ASTM D5185m	1270	1133		
Solicon ppm ASTM D5185m >25 7	Sulfur		ASTM D5185m	2060	3182		
Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 6 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 1 Vitration Abs/cm *ASTM D7624 >20 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.8	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 Sitration Abs/cm *ASTM D7624 >20 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.8	Silicon	ppm	ASTM D5185m	>25	7		
INFRA-RED	Sodium	ppm	ASTM D5185m		0		
Soot %	Potassium	ppm	ASTM D5185m	>20	6		
Nitration	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.8	Soot %	%	*ASTM D7844	>3	1		
Sulfation Abs/.1mm *ASTM D7415 >30 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.8	Nitration	Abs/cm	*ASTM D7624	>20	11.9		
Oxidation Abs/.1mm *ASTM D7414 >25 19.8	Sulfation	Abs/.1mm	*ASTM D7415	>30			
	FLUID DEGRAI	DATION	method	limit/base	current	history1	history2
	 Oxidation	Abs/.1mm	*ASTM D7414	>25	19.8		
	Base Number (BN)	mg KOH/g			8.4		



OIL ANALYSIS REPORT



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		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPE	DTIES	method	limit/hase	current	history1	history2

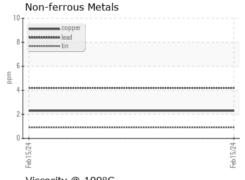
13.8

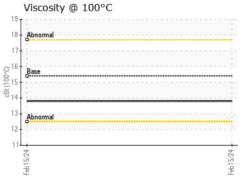
Visc @	100°C
GRA	PHS

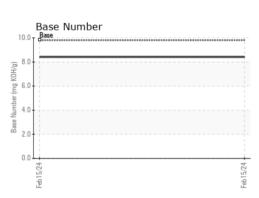
Ferrous Alloys

cSt

ASTM D445 15.4











Certificate L2367

Laboratory Sample No. Lab Number : 06094026

Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0088660

Unique Number: 10886879

Received **Tested** Diagnosed

: 20 Feb 2024 : 21 Feb 2024 : 21 Feb 2024 - Wes Davis

GFL Environmental - 333 - Acheson 29160 Acheson Road,, Bay #7

Acheson, AB CA T7X 6A8 Contact: Moe Ibrahim

moeibrahim@gflenv.com T:

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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