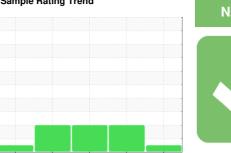


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id **727157** 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

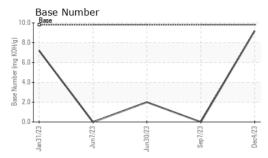
Fluid Condition

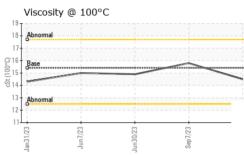
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Sample Date Machine Age hrs Clie Machine Age hrs Clie Oil Age hrs Clie Oil Changed Clie Sample Status CONTAMINATION Fuel WC Water WC Glycol WC WEAR METALS Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Copper ppm ASTM Vanadium ppm ASTM Vanadium ppm ASTM Vanadium ppm ASTM Vanadium School Clie	Method : Met	>5 >2 >2 >2 >20 >40	current GFL0086963 04 Dec 2023 4700 502 N/A NORMAL current <1.0 NEG NEG current 8 <1 0 0 0 <1 0 <1 0	history1 GFL0086936 07 Sep 2023 4666 468 Not Changd ABNORMAL history1 <1.0 NEG NEG history1 24 1 <1 0 0 <1 4	history2 GFL0086995 30 Jun 2023 4198 600 Changed ABNORMAL history2 <1.0 NEG NEG history2 23 2 <1 0 0 2 8
Sample Date Machine Age Machine Age Oil Age Oil Age Oil Changed Sample Status CONTAMINATION Fuel Water Glycol WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead ppm ASTM Copper ppm ASTM ASTM Copper ppm ASTM Vanadium ppm ASTM Vanadium	ent Info ent Info ent Info ent Info ent Info ent Info ethod Method Method Mothod ethod Mothod ethod ethod Mothod ethod	>3.0 >0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	04 Dec 2023 4700 502 N/A NORMAL	07 Sep 2023 4666 468 Not Changd ABNORMAL history1 <1.0 NEG NEG history1 24 1 <1 0 0 <1	30 Jun 2023 4198 600 Changed ABNORMAL history2 <1.0 NEG NEG history2 23 2 <1 0 0 2
Sample Date Machine Age Minchine Age Oil Age Oil Age Oil Changed Sample Status CONTAMINATION Fuel Water Glycol WEAR METALS Iron Chromium ppm ASTM Chromium ppm ASTM Titanium Silver Aluminum Lead Copper ppm ASTM	ent Info ent Info ent Info ent Info ent Info ent Info ethod Method Method Mothod	>3.0 >0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	4700 502 N/A NORMAL current <1.0 NEG NEG current 8 <1 0 0 <1 0 <1 0	4666 468 Not Changd ABNORMAL history1 <1.0 NEG NEG history1 24 1 <1 0 0 <<1	4198 600 Changed ABNORMAL history2 <1.0 NEG NEG history2 23 2 <1 0 0 2
Machine Age hrs Clie Oil Age hrs Clie Oil Changed Clie Sample Status CONTAMINATION Fuel WC Water WC Glycol WC WEAR METALS Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Silver ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Copper ppm ASTM Copper ppm ASTM Vanadium ppm ASTM Vanadium	ethod Method Method Method Method Mothod	>3.0 >0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	502 N/A NORMAL current <1.0 NEG NEG current 8 <1 0 0 0 <1 0 <1	4666 468 Not Changd ABNORMAL history1 <1.0 NEG NEG history1 24 1 <1 0 0 <<1	600 Changed ABNORMAL history2 <1.0 NEG NEG history2 23 2 <1 0 0 2
Oil Age hrs Clie Oil Changed Clie Sample Status CONTAMINATION MC Fuel WC Water WC Glycol WC WEAR METALS Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Copper ppm ASTM Vanadium ppm ASTM	ethod Method : Method : Method : Method : Mobiles : Mob	>3.0 >0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	N/A NORMAL current <1.0 NEG NEG current 8 <1 0 0 0 <1 0 <1 0	Not Changd ABNORMAL history1 <1.0 NEG NEG history1 24 1 <1 0 0 <1	Changed ABNORMAL history2 <1.0 NEG NEG history2 23 2 <1 0 0 2
Oil Changed Sample Status CONTAMINATION Fuel Water Glycol WEAR METALS Iron Chromium Nickel ppm ASTM Chianium ppm ASTM Silver Aluminum ppm ASTM Copper ppm ASTM Copper ppm ASTM Copper ppm ASTM ASTM Copper ppm ASTM ASTM Copper ppm ASTM ASTM ASTM ASTM ASTM ASTM ASTM ASTM	ethod Method : Method : Method : Method Mothod : Mothod	>3.0 >0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	Current	ABNORMAL history1 <1.0 NEG NEG history1 24 1 <1 0 0 <1	ABNORMAL history2 <1.0 NEG NEG history2 23 2 <1 0 0 2
Sample Status CONTAMINATION Fuel Water Glycol WEAR METALS Iron Chromium Nickel Titanium Silver ASTM Aluminum Lead Copper Tin ppm ASTM Contage ASTM A	Method : Met	>3.0 >0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	current <1.0 NEG NEG current 8 <1 0 0 <1 0 <1 0	history1 <1.0 NEG NEG history1 24 1 <1 0 0 <1	history2 <1.0 NEG NEG history2 23 2 <1 0 0 2
Fuel WC Water WC Glycol WC WEAR METALS Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	Method : Met	>3.0 >0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	<1.0 NEG NEG Current 8 <1 0 0 <1 0 <1 0 0 <1 0	<1.0 NEG NEG history1 24 1 <1 0 0 <1	<1.0 NEG NEG history2 23 2 <1 0 0 2
Water WC Glycol WC WEAR METALS Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Copper ppm ASTM Vanadium ppm ASTM Vanadium ASTM	Method : Method ethod M D5185m :	>0.2 limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	NEG NEG current 8 <1 0 0 0 <1	NEG NEG history1 24 1 <1 0 0	NEG NEG history2 23 2 <1 0 0
Glycol WC WEAR METALS me Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	Method ethod M D5185m :	limit/base >120 >20 >5 >2 >2 >2 >2 >40 >330	NEG current 8 <1 0 0 <1 0 <1 0 0 <1 0	NEG history1 24 1 <1 0 0 <1	NEG history2 23 2 <1 0 0 2
WEAR METALS Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	### D5185m : ### D	>120 >20 >5 >2 >2 >2 >2 >20 >40 >330	current 8 <1 0 0 <1 0 <1 0 0 <1 0	history1 24 1 <1 0 0 <1	history2 23 2 <1 0 0 2
Iron ppm ASTM Chromium ppm ASTM Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m :	>120 >20 >5 >2 >2 >2 >2 >20 >40 >330	8 <1 0 0 0 0 <1 0 0 <1 0	24 1 <1 0 0 0	23 2 <1 0 0
Chromium ppm ASTM Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m :	>20 >5 >2 >2 >2 >20 >40 >330	<1 0 0 0 0 <1 0	1 <1 0 0 <1	2 <1 0 0
Nickel ppm ASTM Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m :	>5 >2 >2 >2 >20 >40 >330	0 0 0 <1 0	<1 0 0 <1	<1 0 0 2
Titanium ppm ASTM Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m :	>2 >2 >20 >40 >330	0 0 <1 0	0 0 <1	0 0 2
Silver ppm ASTM Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m ::	>2 >20 >40 >330	0 <1 0	0 <1	0 2
Aluminum ppm ASTM Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m : M	>20 >40 >330	<1 0	<1	2
Lead ppm ASTM Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m : M D5185m : M D5185m :	>40 >330	0		
Copper ppm ASTM Tin ppm ASTM Vanadium ppm ASTM	M D5185m :	>330		4	8
Tin ppm ASTM Vanadium ppm ASTM	M D5185m :				-
Vanadium ppm ASTM		>15	<1	5	5
	/ D5185m		0	1	<1
O I !	VI DO TOOTII		<1	0	0
Cadmium ppm ASTM	M D5185m		0	0	0
ADDITIVES me	ethod	limit/base	current	history1	history2
Boron ppm ASTM	Л D5185m	0	5	6	6
Barium ppm ASTM	M D5185m	0	0	0	0
Molybdenum ppm ASTM	Л D5185m	60	56	68	60
Manganese ppm ASTM	/I D5185m	0	0	<1	<1
Magnesium ppm ASTM	√ D5185m	1010	952	1071	903
Calcium ppm ASTM		1070	848	1214	1059
Phosphorus ppm ASTM	√ D5185m	1150	853	1129	975
Zinc ppm ASTM	√ D5185m	1270	1072	1385	1185
11	M D5185m	2060	2924	3687	2891
CONTAMINANTS me	ethod	limit/base	current	history1	history2
Silicon ppm ASTM	И D5185m :	>25	5	3	3
Sodium ppm ASTM	√ D5185m		<1	2	6
Potassium ppm ASTM	/I D5185m :	>20	0	5	4
INFRA-RED me	ethod	limit/base	current	history1	history2
Soot % % *AST	M D7844	>4	0.4	△ 5.1	4.7
Nitration Abs/cm *AST	M D7624	>20	4.6	13.5	14.0
Sulfation Abs/.1mm *AST	M D7415	>30	17.6	30.5	29.3
FLUID DEGRADATION me	ethod	limit/base	current	history1	history2
Oxidation Abs/.1mm *AST	M D7414 :	>25	12.4	19.8	19.8
	M D2896	9.8	9.2	△ 0.0	<u>^</u> 2.0



OIL ANALYSIS REPORT

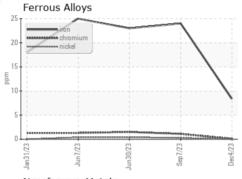


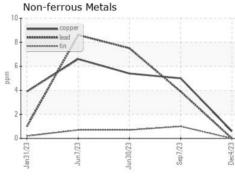


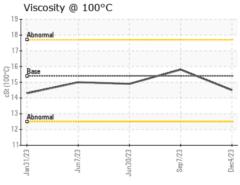
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

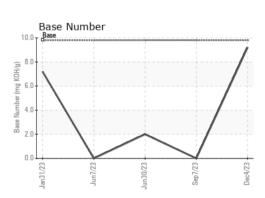
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	15.8	14.9

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10778311 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0086963 : 06028520

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received : 07 Dec 2023 Diagnosed : 09 Dec 2023 Diagnostician : Wes Davis

GFL Environmental - 408 - Brown City

4235 M-53 BROWN CITY, MI US 48416

Contact: WILLIAM DEOLA

bdeola@gflenv.com T: (810)238-2836

* - 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)