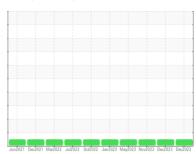


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 578M Component Diesel Engine Fluid 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

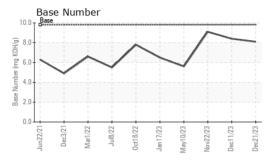
Fluid Condition

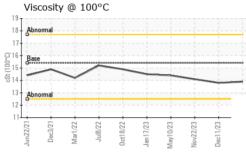
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MOLTAN.		ozi Marzozz Julzozz octzi limit/base	Clurront		history2
	MATION		imivoase	current	history1	
Sample Number		Client Info		GFL0105764	GFL0105670	GFL0089113
Sample Date		Client Info		21 Dec 2023	11 Dec 2023	22 Nov 2023
Machine Age	hrs	Client Info		13991	13924	13835
Oil Age	hrs	Client Info		13924	13835	13076
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	4	3	52
Chromium	ppm	ASTM D5185m	>20	<1	0	5
Nickel	ppm	ASTM D5185m	>2	<1	0	1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	<1	7
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	3	2
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	3	2	0
Barium	ppm		0	<1	0	0
Molybdenum	ppm	ASTM D5185m	60	58	52	60
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	1010	901	962	1050
Calcium	ppm	ASTM D5185m	1070	1029	1019	1151
Phosphorus	ppm	ASTM D5185m	1150	1094	1040	1010
	PP	710 HW DO TOOM	1100	.00.	1010	1010
/inc	ppm	ASTM D5185m	1270	1264	1208	1385
Zinc Sulfur	ppm ppm	ASTM D5185m ASTM D5185m	1270 2060	1264 3052	1208 3072	1385 3237
	ppm					
Sulfur	ppm ITS	ASTM D5185m	2060 limit/base	3052 current	3072	3237 history2
Sulfur CONTAMINAN Silicon	ppm TS ppm	ASTM D5185m method ASTM D5185m	2060 limit/base	3052 current	3072 history1	3237 history2 20
Sulfur	ppm ITS ppm ppm	ASTM D5185m method	2060 limit/base >25	3052 current	3072 history1	3237 history2
Sulfur CONTAMINAN Silicon Sodium	ppm TS ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2060 limit/base >25	3052 current 6 11	3072 history1 4 15	3237 history2 20 6 1
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm Ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	2060 limit/base >25 >20 limit/base	3052 current 6 11 0 current	3072 history1 4 15 <1 history1	3237 history2 20 6 1 history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm TS ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	2060 limit/base >25 >20 limit/base >6	3052	3072 history1 4 15 <1 history1 0.2	3237 history2 20 6 1 history2 0.1
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm Abs/cm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	2060 limit/base >25 >20 limit/base >6 >20	3052 current 6 11 0 current 0.3 7.0	3072 history1 4 15 <1 history1 0.2 5.5	3237 history2 20 6 1 history2 0.1 6.4
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm Abs/.1mm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	2060 limit/base >25 >20 limit/base >6 >20 >30	3052	3072 history1 4 15 <1 history1 0.2 5.5 18.1	3237 history2 20 6 1 history2 0.1 6.4 18.6
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm Abs/.1mm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 method	2060 limit/base >25 >20 limit/base >6 >20 >30 limit/base	3052	3072 history1 4 15 <1 history1 0.2 5.5 18.1 history1	3237 history2 20 6 1 history2 0.1 6.4 18.6 history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm Abs/.1mm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	2060 limit/base >25 >20 limit/base >6 >20 >30 limit/base >25	3052	3072 history1 4 15 <1 history1 0.2 5.5 18.1	3237 history2 20 6 1 history2 0.1 6.4 18.6



OIL ANALYSIS REPORT



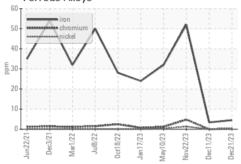


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

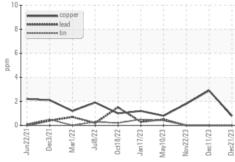
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	13.8	14.1

GRAPHS

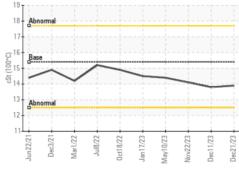
Ferrous Alloys











Base Number (mg K0H/g) 0.0





Certificate L2367

Laboratory

Sample No. Lab Number Unique Number : 10804483 Test Package : FLEET

: GFL0105764 : 06043875

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 22 Dec 2023

Diagnosed : 26 Dec 2023 Diagnostician : Wes Davis

GFL Environmental - 415 - Michigan East

6200 Elmridge Sterling Heights, MI US 48313

Contact: Frank Wolak fwolak@gflenv.com T: (586)825-9514

* - 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)

Report Id: GFL415 [WUSCAR] 06043875 (Generated: 12/26/2023 15:51:30) Rev: 2

Submitted By: Frank Wolak