

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 821039-101122

Component **Diesel Engine** Fluid

PETRO CANADA DUR

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0102562	GFL0100377	GFL0078380
Sample Date		Client Info		18 Dec 2023	30 Nov 2023	09 Nov 2023
Machine Age	hrs	Client Info		23374	23338	23307
Dil Age	hrs	Client Info		0	600	240
Dil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	ABNORMAL	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
ron	ppm	ASTM D5185m	>120	2	26	6
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Fitanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	5	2
_ead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	6	1	2
Гin	ppm	ASTM D5185m	>15	0	0	<1
/anadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	3	4	2
Barium	ppm	ASTM D5185m	0	0	0	0
Volybdenum	ppm	ASTM D5185m	60	56	167	62
Manganese	ppm	ASTM D5185m	0	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	878	903	960
Calcium	ppm	ASTM D5185m	1070	973	1050	1072
Phosphorus	ppm	ASTM D5185m	1150	943	987	1046
Zinc	ppm	ASTM D5185m	1270	1126	1230	1295
Sulfur	ppm	ASTM D5185m	2060	2970	2909	2939
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	3	8	5
Sodium	ppm	ASTM D5185m		2	9 23	2
Potassium	ppm	ASTM D5185m	>20	0	6	1
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	0.2	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	4.6	4.9	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.3	17.2	19.1
FLUID DEGRAD		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	13.5	15.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.2	9.2	7.4

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.



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White Metal scalar *Visual Yellow Metal scalar *Visual Precipitate scalar *Visual Silt scalar *Visual Debris scalar *Visual Sand/Dirt scalar *Visual Appearance scalar *Visual Codor scalar *Visual Emulsified Water scalar *Visual Free Water scalar *Visual Ferrous Alloys Mon-ferrous Metals Viscosity @ 100°C	aal NONE aal NONE aal NONE aal NONE aal NONE aal NONE aal NORM aal NORM aal >0.2 aal imit/0 1 D445 15.4	NE JE (NE NE NE NE NL NL NL NL	LIGHT NONE NONE LIGHT NORM NORM NEG NEG 14.2	- IL IL IL IL	NONE NONE NONE NONE NORML NORML NEG history1 14.0	NC NC NC NC NC NC NC NC NC NC NC NC NC	DNE DNE DNE DNE DNE DNE DNE DNE DRML CRML CRML CRML CRML CRML CRML CRML C
Yellow Metal scalar *Visua Precipitate scalar *Visua Silt scalar *Visua Debris scalar *Visua Sand/Dirt scalar *Visua Appearance scalar *Visua Odor scalar *Visua Free Water scalar *Visua Free Water scalar *Visua Fere Water scalar *Visua GRAPHS Ferrous Alloys Ferrous Alloys Image: State of the stat	al NONE al NONE al NONE al NONE al NONE al NOR al NOR al NOR al SOL2 al 10445 15.4	NE NE NE NE NE NE NE NE NL RML it/base	NONE NONE LIGHT NORM NORM NEG NEG Curre 14.2	IL IL IL IN IN	NONE NONE NONE NORML NORML NEG history1 14.0	NC NC NC NC NC NC NC NC NC NC NC NC	DNE DNE DNE DNE DNE DRML CRML CRML CRML CRML CRML CRML CRML C
Precipitate scalar *Visua Silt scalar *Visua Debris scalar *Visua Sand/Dirt scalar *Visua Appearance scalar *Visua Odor scalar *Visua Emulsified Water scalar *Visua Free W	aal NONE aal NONE aal NONE aal NORM aal NORM aal NORM aal >0.2 aal >0.2 aal 15.4	JE JE JE RML RML it/base	NONE LIGHT NONE NORM NEG NEG Curre 14.2	ant	NONE NONE NONE NORML NEG NEG 14.0	NC NC NC NC NC NE NE 13.	DNE DNE DNE DNE DRML CRML G G istory2 .3
Silt scalar *Visua Sand/Dirt scalar *Visua Appearance scalar *Visua Odor scalar *Visua Emulsified Water scalar *Visua Free Water scalar *Visua Ferrous Alloys Mon-ferrous Metals Viscosity @ 100°C	aal NONE aal NONE aal NORM aal NORM aal NORM aal >0.2 aal imit/f 10445 15.4	VE NE NE RML RML it/base	NONE LIGHT NORM NORM NEG NEG Curre 14.2	ent	NONE NONE NORML NORML NEG NEG 14.0	NC NC NC NC NE NE 13.	DNE DNE DNE DNE DRML EG EG istory2 .3
Debris scalar *Visua Sand/Dirt scalar *Visua Appearance scalar *Visua Emulsified Water scalar *Visua Free Water scalar *Visua Free Water scalar *Visua FLUID PROPERTIES met Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys Ferrous Alloys Non-ferrous Metals Voiscosity @ 100°C	al NONE al NOR al NOR al NOR al >0.2 al ind limit/ 10445 15.4	JE NE RML RML it/base	LIGHT NORM NORM NEG NEG Curre 14.2	IL. IL. IL.	NONE NORML NORML NEG NEG 14.0	NC NC NC NE NE 13.	DNE DNE DRML EG EG istory2
Sand/Dirt scalar *Visua Appearance scalar *Visua Emulsified Water scalar *Visua Free Water scalar *Visua Free Water scalar *Visua FLUID PROPERTIES mett Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys	aal NONE aal NORM aal NORM aal >0.2 aal imit/U 1 D445 15.4	VE	NONE NORM NEG NEG Curre 14.2	IL IL ent	NONE NORML NEG NEG history1 14.0	NC NC NE NE 13.	DNE DRML EG EG istory2 .3
Appearance scalar *Visua Odor scalar *Visua Emulsified Water scalar *Visua Free Water scalar *Visua Free Water scalar *Visua FLUID PROPERTIES meth Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys 	al NORM al NORM al >0.2 al ind imit/ 10445 15.4	RML RML	NORM NORM NEG Curre 14.2	IL IL ent	NORML NORML NEG history1 14.0	NC NC NE 13.	DRML DRML EG istory2 .3
Odor scalar *Visua Emulsified Water scalar *Visua Free Water scalar *Visua Free Water scalar *Visua FLUID PROPERTIES mett Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys	aal NORM aal >0.2 aal Imit/ 1 D445 15.4	RML it/base	NORM NEG NEG 14.2	ent	NORML NEG history1 14.0	NC NE h	DRML EG alistory2 .3
Emulsified Water scalar *Visua Free Water scalar *Visua Free Water scalar *Visua FLUID PROPERTIES mett Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys	ial >0.2 ial limit/ 1 D445 15.4	it/base	NEG NEG curre 14.2	ent	NEG NEG history1 14.0	NE NE 13.	EG EG iistory2 .3
Free Water scalar *Visua FLUID PROPERTIES meth Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys	ral thod limit/ 1 D445 15.4	it/base	NEG curre 14.2	ent	NEG history1 14.0	NE h 13.	EG history2 .3
FLUID PROPERTIES mett Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys	thod limit/ 1 D445 15.4	it/base	e curre 14.2	ent	history1 14.0	h 13.	.3
Visc @ 100°C cSt ASTM GRAPHS Ferrous Alloys	1 D445 15.4		14.2		14.0	13.	.3
GRAPHS Ferrous Alloys	Nev9/23 Dec18/23						
Ferrous Alloys	Nov9/23						
Non-ferrous Metals CIULIUM Viscosity @ 100°C	Nov9/23						
Viscosity @ 100°C	\wedge /						
Correction of the second secon	V						
9 8 Abnormal	Nov9/23		_				
8 - Ahnormal			Baco Nu				
		10.0	0.0 Base	ımber			
17		10.0		umber			
6 Base		10.0 (^B /H	Base 8.0	umber	7	\mathbb{N}	\bigwedge
5		10.0 (B/HO) Bu 6.0	8.0	umber	7	\mathcal{N}	\square
4		0.01 0.8 0.0 0.0 0.0	Base 8.0 6.0		7	M	\square



Unique Number : 10795587 Diagnostician : Sean Felton Test Package : FLEET (Additional Tests: FT-IR(Diff)) Certificate L2367 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)

lul22/20 Jul29/21

Jan 24/20

: GFL0102562

: 06040358

Jun2/22 -

May11/23 -Nov9/23 Dec18/23 -

: 20 Dec 2023

: 21 Dec 2023

Dec5/22

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

Recieved

Diagnosed

11

Laboratory Sample No.

Lab Number

un17/19 -



Jun2/22 -

Dec5/22 May11/23 Nov9/23

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GFL Environmental - 894 - Ada Hauling

Jul29/21

0.0

Jun17/19 -

Jan24/20

Dec18/23 -

Ada, OK

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