

OIL ANALYSIS REPORT

(TB7548) 411054

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



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

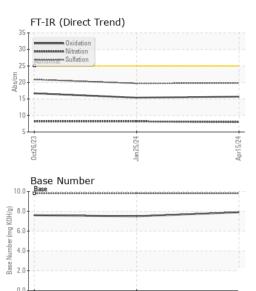
Fluid Condition

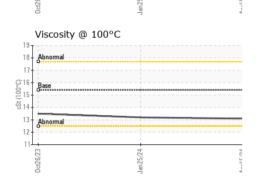
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

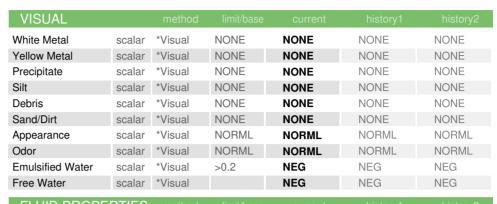
SAMPLE INFORMATION method limit/base current history1 GFL0067003 Sample Number Client Info 15 Apr 2024 25 Jan 2024 26 Oct 2023 Amachine Age hrs Client Info 0	0ct023 Jan/024 Apr/024								
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2		
Sample Date	Sample Number		Client Info		GFL0106237	GFL0067042	GFL0067003		
Oil Age hrs Client Info Changed Changed <t< th=""><th></th><th></th><th>Client Info</th><th></th><th>15 Apr 2024</th><th>25 Jan 2024</th><th>26 Oct 2023</th></t<>			Client Info		15 Apr 2024	25 Jan 2024	26 Oct 2023		
Oil Changed Sample Status Client Info Changed NORMAL 1.10	Machine Age	hrs	Client Info		7787	7208	6587		
Sample Status	Oil Age	hrs	Client Info		0	0	0		
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 NEG NEG <td< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>Changed</th><th>Changed</th><th>Changed</th></td<>	Oil Changed		Client Info		Changed	Changed	Changed		
Fuel	Sample Status				NORMAL	NORMAL	NORMAL		
Water Glycol WC Method Glycol NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >165 8 11 11 Chromium ppm ASTM D5185m >5 <1 1 <1 Nickel ppm ASTM D5185m >2 0 <1 0 Sliver ppm ASTM D5185m >2 0 <1 0 Sliver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 2 1 2 Lead ppm ASTM D5185m >90 <1 1 <1 0 Copper ppm ASTM D5185m >5 <1 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m <t< th=""><th>CONTAMINAT</th><th>ION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	CONTAMINAT	ION	method	limit/base	current	history1	history2		
Second WC Method NEG NEG NEG	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0		
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG		
Iron	Glycol		WC Method		NEG	NEG	NEG		
Chromium ppm ASTM D5185m >5 <1 1 <1 Nickel ppm ASTM D5185m >4 0 <1	WEAR METAL	S	method	limit/base	current	history1	history2		
Nickel	Iron	ppm	ASTM D5185m	>165	8	11	11		
Titanium ppm ASTM D5185m >2 0 <1 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 2 1 2 Lead ppm ASTM D5185m >150 0 2 <1 Copper ppm ASTM D5185m >90 <1 1 <1 Tin ppm ASTM D5185m >5 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 4 11 5 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 1 1<	Chromium	ppm	ASTM D5185m	>5	<1	1	<1		
Silver	Nickel	ppm	ASTM D5185m	>4	0	<1	0		
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	<1	0		
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0		
Copper ppm ASTM D5185m >90 <1 1 <1 <1 <1 <1 O Vanadium ppm ASTM D5185m >5 <1 <1 0	Aluminum	ppm	ASTM D5185m	>20	2	1	2		
Tin ppm ASTM D5185m >5 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 4 11 5 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 60 60 70 61 Manganese ppm ASTM D5185m 0 <1	Lead	ppm	ASTM D5185m	>150	0	2	<1		
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ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0		
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Magnesium ppm ASTM D5185m 1010 971 1033 916 Calcium ppm ASTM D5185m 1070 1118 1123 1071 Phosphorus ppm ASTM D5185m 1150 1033 970 896 Zinc ppm ASTM D5185m 1270 1271 1326 1224 Sulfur ppm ASTM D5185m 2060 3355 2775 3006 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 3 4 4 Sodium ppm ASTM D5185m 2 <1		ppm							
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Zinc ppm ASTM D5185m 1270 1271 1326 1224 Sulfur ppm ASTM D5185m 2060 3355 2775 3006 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 3 4 4 Sodium ppm ASTM D5185m 2 <1		ppm							
Sulfur ppm ASTM D5185m 2060 3355 2775 3006 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 3 4 4 Sodium ppm ASTM D5185m 2 <1									
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 3 4 4 Sodium ppm ASTM D5185m 2 <1									
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Sodium ppm ASTM D5185m 2 <1 2 Potassium ppm ASTM D5185m >20 <1 4 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >7.5 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 8.0 8.2 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 19.7 20.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.7 15.4 16.7		NTS	method	limit/base	current	history1	history2		
Potassium ppm ASTM D5185m >20 <1 4 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >7.5 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 8.0 8.2 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 19.7 20.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.7 15.4 16.7				>35					
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Soot % % *ASTM D7844 >7.5 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 8.0 8.2 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 19.7 20.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.7 15.4 16.7	Potassium	ppm	ASTM D5185m	>20	<1	4	6		
Nitration Abs/cm *ASTM D7624 >20 8.0 8.2 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 19.7 20.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.7 15.4 16.7	INFRA-RED		method	limit/base	current	history1	history2		
Sulfation Abs/.1mm *ASTM D7415 >30 19.8 19.7 20.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.7 15.4 16.7	Soot %								
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.7 15.4 16.7	Nitration	Abs/cm	*ASTM D7624	>20	8.0	8.2	8.2		
Oxidation Abs/.1mm *ASTM D7414 >25 15.7 15.4 16.7	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.8	19.7	20.9		
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2		
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.9 7.5 7.6	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	15.4	16.7		
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	7.5	7.6		



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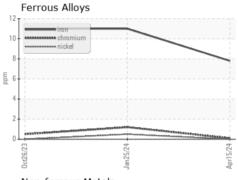


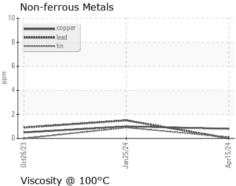


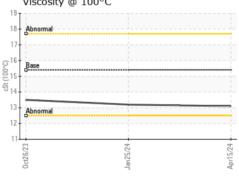


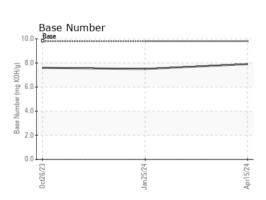
FLUID PROPE	RHES	method	limit/base		history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.1	13.2	13.5

GRAPHS













Certificate 12367

Laboratory Sample No.

: GFL0106237 Lab Number : 06158335 Unique Number : 10993758

Test Package : FLEET

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

: 23 Apr 2024 : 24 Apr 2024 Diagnosed : 24 Apr 2024 - Wes Davis

GFL Environmental - 916 - Greenbay HC 1799 County Trunk PP

DePere, WI US 54115 Contact: Travis Runge

travis.runge@gflenv.com

T: (920)351-2341

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)

Contact/Location: Travis Runge - GFL916