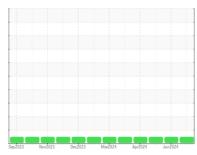


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
821083
Component

Diesel Engine

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

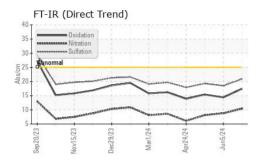
Fluid Condition

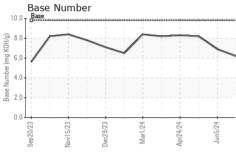
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

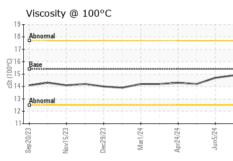
Sample Date Client Info 24 Jun 2024 05 Jun 2024 15 May 2024 Machine Age hrs Client Info 2209 2094 1988 Oil Age hrs Client Info 471 356 250 Oil Changed Client Info Not Changd NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >10 20 14 14 Chromium ppm ASTM 05185m >20 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	AAL)		Sep2023	WOVZUZ3 DeczUZ3	Marzuz4 Aprzuz4 Ji	unzuz4	
Sample Date Client Info 24 Jun 2024 05 Jun 2024 15 May 2024 Machine Age hrs Client Info 2209 2094 1988 1988 250	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 2209 2094 1988 Oil Age hrs Client Info 471 356 250 Oil Changed Client Info Not Changd	Sample Number		Client Info		GFL0122580	GFL0117922	GFL0117934
Oil Age hrs Client Info 471 356 250 Oil Changed Sample Status Client Info Not Changed Not Ch	Sample Date		Client Info		24 Jun 2024	05 Jun 2024	15 May 2024
Client Info	Machine Age	hrs	Client Info		2209	2094	1988
NORMAL NORMAL NORMAL CONTAMINATION method limil/base current history1 history2	Oil Age	hrs	Client Info		471	356	250
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 20 14 14 Chromium ppm ASTM D5185m >20 1 <1 <1 Nickel ppm ASTM D5185m >4 1 0 0 Silver ppm ASTM D5185m >4 1 0 <1 Silver ppm ASTM D5185m >4 1 <1 <1 Silver ppm ASTM D5185m >40 1 <1 <0 Aluminum ppm ASTM D5185m >40 1 <1 0 Copper ppm ASTM D5185m >40 1 <1 0 Copper ppm ASTM D5185m >15 <1 <1 <1 0 Cadmium ppm ASTM D5185m <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 1 <1 <1 <1 <1 Nickel ppm ASTM D5185m >20 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	20	14	14
Titanium	Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>4	1	0	0
Aluminum	Titanium	ppm	ASTM D5185m		<1	<1	<1
Lead	Silver	ppm	ASTM D5185m	>3	<1	0	<1
Copper ppm ASTM D5185m >330 20 2 1 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	4	3	4
Tin	Lead	ppm	ASTM D5185m	>40	1	<1	0
Vanadium ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Copper	ppm	ASTM D5185m	>330	20	2	1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 14 10 0 Barium ppm ASTM D5185m 0 1 0 0 Molybdenum ppm ASTM D5185m 0 1 0 <1	Tin	ppm	ASTM D5185m	>15	<1	<1	0
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	<1	<1
Boron	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 1 0 0 Molybdenum ppm ASTM D5185m 60 68 63 61 Manganese ppm ASTM D5185m 0 1 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 68 63 61 Manganese ppm ASTM D5185m 0 1 0 <1 Magnesium ppm ASTM D5185m 1010 684 692 1025 Calcium ppm ASTM D5185m 1070 1172 1189 1137 Phosphorus ppm ASTM D5185m 1150 793 988 1059 Zinc ppm ASTM D5185m 1270 1085 1132 1298 Sulfur ppm ASTM D5185m 2060 2540 3059 3642 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m >20 5 3 5 Potassium ppm ASTM D5185m >20 5 3 5 Potassium ppm ASTM D7844	Boron	ppm	ASTM D5185m	0	14	10	0
Manganese ppm ASTM D5185m 0 1 0 <1 Magnesium ppm ASTM D5185m 1010 684 692 1025 Calcium ppm ASTM D5185m 1070 1172 1189 1137 Phosphorus ppm ASTM D5185m 1150 793 988 1059 Zinc ppm ASTM D5185m 1270 1085 1132 1298 Sulfur ppm ASTM D5185m 2060 2540 3059 3642 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m >25 5 3 5 Potassium ppm ASTM D5185m >20 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20	Barium	ppm	ASTM D5185m	0	1	0	0
Magnesium ppm ASTM D5185m 1010 684 692 1025 Calcium ppm ASTM D5185m 1070 1172 1189 1137 Phosphorus ppm ASTM D5185m 1150 793 988 1059 Zinc ppm ASTM D5185m 1270 1085 1132 1298 Sulfur ppm ASTM D5185m 2060 2540 3059 3642 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/.1mm *ASTM D7415 >30 20.9 <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>60</td> <th>68</th> <td>63</td> <td>61</td>	Molybdenum	ppm	ASTM D5185m	60	68	63	61
Calcium ppm ASTM D5185m 1070 1172 1189 1137 Phosphorus ppm ASTM D5185m 1150 793 988 1059 Zinc ppm ASTM D5185m 1270 1085 1132 1298 Sulfur ppm ASTM D5185m 2060 2540 3059 3642 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/	Manganese	ppm	ASTM D5185m	0	1	0	<1
Phosphorus ppm ASTM D5185m 1150 793 988 1059 Zinc ppm ASTM D5185m 1270 1085 1132 1298 Sulfur ppm ASTM D5185m 2060 2540 3059 3642 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method li	Magnesium	ppm	ASTM D5185m	1010	684	692	1025
Zinc ppm ASTM D5185m 1270 1085 1132 1298 Sulfur ppm ASTM D5185m 2060 2540 3059 3642 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7	Calcium	ppm	ASTM D5185m	1070	1172	1189	1137
Sulfur ppm ASTM D5185m 2060 2540 3059 3642 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Phosphorus	ppm		1150	793	988	1059
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Zinc	ppm	ASTM D5185m	1270	1085	1132	1298
Silicon ppm ASTM D5185m >25 6 6 9 Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Sulfur	ppm	ASTM D5185m	2060	2540	3059	3642
Sodium ppm ASTM D5185m 5 3 5 Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 5 5 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Silicon	ppm	ASTM D5185m	>25	6	6	9
INFRA-RED	Sodium	ppm	ASTM D5185m		5	3	5
Soot % % *ASTM D7844 >3 0.6 0.4 0.4 Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Potassium	ppm	ASTM D5185m	>20	5	5	2
Nitration Abs/cm *ASTM D7624 >20 10.4 8.8 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.9 18.5 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Soot %	%	*ASTM D7844	>3	0.6	0.4	0.4
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Nitration	Abs/cm	*ASTM D7624	>20	10.4	8.8	8.1
Oxidation Abs/.1mm *ASTM D7414 >25 17.4 14.4 15.4	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	18.5	19.3
	FLUID DEGRADATION method limit/base current history1 history2						
	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.4	14.4	15.4
	Base Number (BN)					6.9	



OIL ANALYSIS REPORT



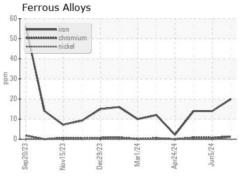




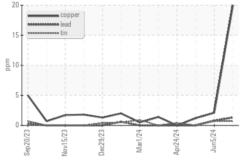
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

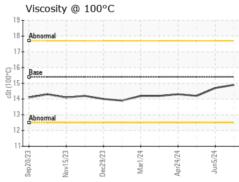
FLUID PROPE	:RHES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.9	14.7	14.2

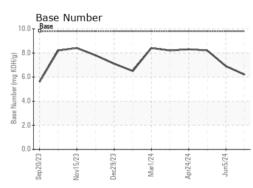
GRAPHS



Non-ferrous Metals











Certificate 12367

Sample No.

Test Package : FLEET

: GFL0122580 Lab Number : 06219547 Unique Number : 11097744

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 25 Jun 2024

Tested : 26 Jun 2024 Diagnosed : 26 Jun 2024 - Wes Davis

GFL Environmental - 892 - Pauls Valley Hauling

1910 S CHICKASAW STREET Pauls Valley, OK US 73075

Contact: Tony Graham tgraham2@wcamerica.com

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)

T:

F: