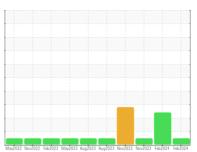


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 4552M Component Diesel Engine Fluid PETRO CANAI

PETRO CANADA DURON SHP 15W40 (5 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Resample)

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

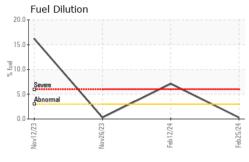
Fluid Condition

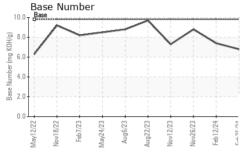
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

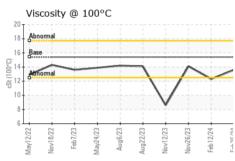
May2022 Nov2022 Feb2023 May2023 Aug2023 Aug2023 Nov2023 Nov2023 Feb2024 Feb2024						
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0115049	GFL0106675	GFL0097724
Sample Date		Client Info		25 Feb 2024	12 Feb 2024	26 Nov 2023
Machine Age	hrs	Client Info		21304	21216	20710
Oil Age	hrs	Client Info		88	506	118
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	SEVERE	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
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	21	11	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	4	0	0
Titanium	ppm	ASTM D5185m	>2	0	1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	<1
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	8	<1	0
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVEC						la la tarre O
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	method ASTM D5185m		current 2	history1 3	nistory2 0
	ppm		0			
Boron		ASTM D5185m	0	2	3	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	2	3	0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 62	3 0 53	0 0 61
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 62 <1	3 0 53	0 0 61
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	2 0 62 <1 1135	3 0 53 0 916	0 0 61 0 1117
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	2 0 62 <1 1135 1242	3 0 53 0 916 959	0 0 61 0 1117 1247
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	2 0 62 <1 1135 1242 1129	3 0 53 0 916 959 1013	0 0 61 0 1117 1247 1236
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	2 0 62 <1 1135 1242 1129 1518	3 0 53 0 916 959 1013 1231	0 0 61 0 1117 1247 1236 1568
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	2 0 62 <1 1135 1242 1129 1518 3344	3 0 53 0 916 959 1013 1231 2966	0 0 61 0 1117 1247 1236 1568 3856
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	2 0 62 <1 1135 1242 1129 1518 3344 current	3 0 53 0 916 959 1013 1231 2966 history1	0 0 61 0 1117 1247 1236 1568 3856 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	2 0 62 <1 1135 1242 1129 1518 3344 current	3 0 53 0 916 959 1013 1231 2966 history1	0 0 61 0 1117 1247 1236 1568 3856 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	2 0 62 <1 1135 1242 1129 1518 3344 current 4	3 0 53 0 916 959 1013 1231 2966 history1 4 21	0 0 61 0 1117 1247 1236 1568 3856 history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 0 62 <1 1135 1242 1129 1518 3344 current 4 2 <1	3 0 53 0 916 959 1013 1231 2966 history1 4 21 <1	0 0 61 0 1117 1247 1236 1568 3856 history2 2 5 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0	2 0 62 <1 1135 1242 1129 1518 3344 current 4 2 <1	3 0 53 0 916 959 1013 1231 2966 history1 4 21 <1	0 0 61 0 1117 1247 1236 1568 3856 history2 2 5 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >3.0	2 0 62 <1 1135 1242 1129 1518 3344 current 4 2 <1 0.3	3 0 53 0 916 959 1013 1231 2966 history1 4 21 <1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 61 0 1117 1247 1236 1568 3856 history2 2 5 <1 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >3.0 limit/base	2 0 62 <1 1135 1242 1129 1518 3344 current 4 2 <1 0.3	3 0 53 0 916 959 1013 1231 2966 history1 4 21 <1 <1 10.3	0 0 61 0 1117 1247 1236 1568 3856 history2 2 5 <1 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >3.0 limit/base	2 0 62 <1 1135 1242 1129 1518 3344 current 4 2 <1 0.3 current	3 0 53 0 916 959 1013 1231 2966 history1 4 21 <1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 61 0 1117 1247 1236 1568 3856 history2 2 5 <1 0.3 history2 0.1 5.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20 >30	2 0 62 <1 1135 1242 1129 1518 3344 current 4 2 <1 0.3 current 0.6 8.3 19.7	3 0 53 0 916 959 1013 1231 2966 history1 4 21 <1 <1 10.3 8.6 19.4	0 0 61 0 1117 1247 1236 1568 3856 history2 2 5 <1 0.3 history2 0.1 5.3 17.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20 >30 limit/base	2 0 62 <1 1135 1242 1129 1518 3344 current 4 2 <1 0.3 current 0.6 8.3 19.7	3 0 53 0 916 959 1013 1231 2966 history1 4 21 <1 ▲ 7.1 history1 0.3 8.6 19.4 history1	0 0 61 0 1117 1247 1236 1568 3856 history2 2 5 <1 0.3 history2 0.1 5.3 17.9



OIL ANALYSIS REPORT





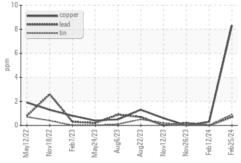


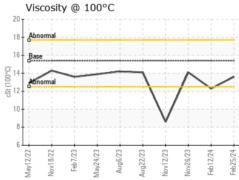
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

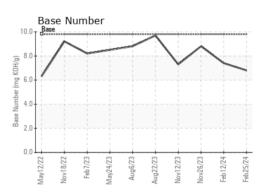
FLUID PROPI	ERIIES	method			HISTORY	nistoryz
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	12.3	14.1

GRAPHS













Laboratory Sample No. Lab Number : 06104106 Unique Number: 10902336

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0115049

Received

Tested Diagnosed

: 29 Feb 2024 : 04 Mar 2024

: 04 Mar 2024 - Don Baldridge

GFL Environmental - 405 - Arbor Hills 7400 Napier Rd

NORTHVILLE, MI US 48168 Contact: John Nahal

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

jnahal@gflenv.com T:

* - 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)

Test Package: FLEET (Additional Tests: PercentFuel)

Report Id: GFL405 [WUSCAR] 06104106 (Generated: 03/04/2024 17:48:56) Rev: 1

Submitted By: John Nahal

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