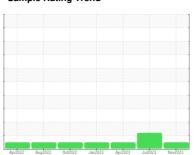


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id **4583M** Component **Diesel Engine**

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

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

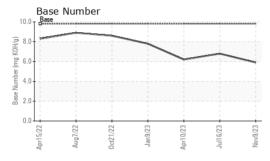
Fluid Condition

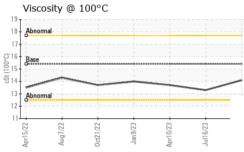
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

	/	AprŽ022	Aug2022 Oct2022	Jan2023 Apr2023 Jul2023	Nov2023	
SAMPLE INFORM	<i>N</i> ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0097657	GFL0087336	GFL0072894
Sample Date		Client Info		09 Nov 2023	16 Jul 2023	10 Apr 2023
Machine Age	hrs	Client Info		10025	9163	8359
Oil Age	hrs	Client Info		590	600	800
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	0.0	NEG
WEAR METALS	3	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	55	36	26
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	12	28	8
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	2	2	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
						_
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	Method	limit/base	o current	0 history1	0 history2
	ppm					
ADDITIVES		method	0	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 2	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 2 0	history1 56 0	history2 4 0
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 2 0 56	history1 56 0 62	history2 4 0 61
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 2 0 56 <1	history1 56 0 62 <1	history2 4 0 61 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 2 0 56 <1 891	history1 56 0 62 <1 404	history2 4 0 61 <1 879
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 2 0 56 <1 891 1049	history1 56 0 62 <1 404 1781	history2 4 0 61 <1 879 1129
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 2 0 56 <1 891 1049 993	history1 56 0 62 <1 404 1781 1037	history2 4 0 61 <1 879 1129 1004
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 2 0 56 <1 891 1049 993 1255	history1 56 0 62 <1 404 1781 1037 1306	history2 4 0 61 <1 879 1129 1004 1253
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 2 0 56 <1 891 1049 993 1255 2581	history1 56 0 62 <1 404 1781 1037 1306 3854	history2 4 0 61 <1 879 1129 1004 1253 3105
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 2 0 56 <1 891 1049 993 1255 2581 current	history1 56 0 62 <1 404 1781 1037 1306 3854 history1	history2 4 0 61 <1 879 1129 1004 1253 3105 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 2 0 56 <1 891 1049 993 1255 2581 current 12	history1 56 0 62 <1 404 1781 1037 1306 3854 history1 6	history2 4 0 61 <1 879 1129 1004 1253 3105 history2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 2 0 56 <1 891 1049 993 1255 2581 current 12 10	history1 56 0 62 <1 404 1781 1037 1306 3854 history1 6 3	history2 4 0 61 <1 879 1129 1004 1253 3105 history2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 2 0 56 <1 891 1049 993 1255 2581 current 12 10 14	history1 56 0 62 <1 404 1781 1037 1306 3854 history1 6 3	history2 4 0 61 <1 879 1129 1004 1253 3105 history2 4 4 14
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m method	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 2 0 56 <1 891 1049 993 1255 2581 current 12 10 14 current	history1 56 0 62 <1 404 1781 1037 1306 3854 history1 6 3 ▲ 59	history2 4 0 61 <1 879 1129 1004 1253 3105 history2 4 14 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 2 0 56 <1 891 1049 993 1255 2581 current 12 10 14 current	history1 56 0 62 <1 404 1781 1037 1306 3854 history1 6 3 ▲ 59 history1 0.5	history2 4 0 61 <1 879 1129 1004 1253 3105 history2 4 14 history2 0.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D76185m *ASTM D76185m *ASTM D76185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 2 0 56 <1 891 1049 993 1255 2581 current 12 10 14 current 1 11.5	history1 56 0 62 <1 404 1781 1037 1306 3854 history1 6 3 ▲ 59 history1 0.5 10.1	history2 4 0 61 <1 879 1129 1004 1253 3105 history2 4 14 history2 0.7 10.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D76185m *ASTM D76185m *ASTM D76185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >6 >20 >30	current 2 0 56 <1 891 1049 993 1255 2581 current 12 10 14 current 1 11.5 24.8	history1 56 0 62 <1 404 1781 1037 1306 3854 history1 6 3 ▲ 59 history1 0.5 10.1 22.2	history2 4 0 61 <1 879 1129 1004 1253 3105 history2 4 14 history2 0.7 10.0 19.4



OIL ANALYSIS REPORT



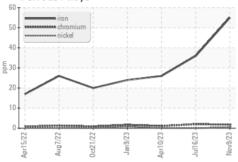


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

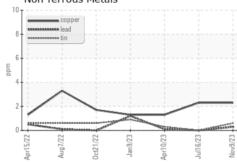
FLUID PROPE	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	13.3	13.7

GRAPHS

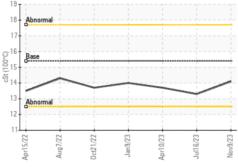
Ferrous Alloys

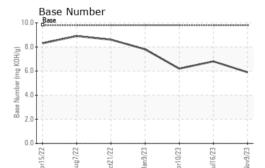
















Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : FLEET

: GFL0097657 : 06009336 : 10743098

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 16 Nov 2023 Diagnosed : 16 Nov 2023 Diagnostician : Wes Davis

GFL Environmental - 405 - Arbor Hills

7400 Napier Rd NORTHVILLE, MI US 48168

Contact: John Nahal

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)

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