

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

914030

Component Diesel Engine

Fluid 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.

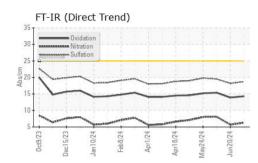
Fluid Condition

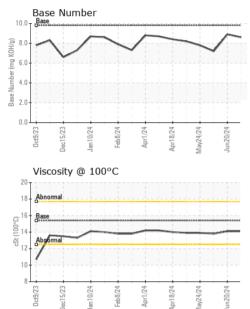
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0093485	GFL0093469	GFL0093439
Sample Date		Client Info		02 Jul 2024	20 Jun 2024	29 May 2024
Machine Age	hrs	Client Info		2574	2490	2341
Oil Age	hrs	Client Info		233	149	594
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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
Iron	ppm	ASTM D5185m	>100	5	6	18
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	۲ ۲	0	2
Titanium	ppm	ASTM D5185m		7	7	8
Silver	ppm	ASTM D5185m	>3	, <1	0	<1
Aluminum	ppm	ASTM D5185m	>20	1	1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm		>330	<1	2	6
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium				-	0	0
Gaumum	ppm	ASTM D5185m		0	0	0
ADDITIVES	ррп	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base	-	-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 8	history1 8	history2 7
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 8 0	history1 8 0	history2 7 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 8 0 51	history1 8 0 55	history2 7 0 52
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 8 0 51 <1	history1 8 0 55 <1	history2 7 0 52 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 8 0 51 <1 925	history1 8 0 55 <1 987	history2 7 0 52 <1 909
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 8 0 51 <1 925 1107	history1 8 0 55 <1 987 1224	history2 7 0 52 <1 909 1100
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current 8 0 51 <1 925 1107 1056	history1 8 0 55 <1 987 1224 1084	history2 7 0 52 <1 909 1100 1017
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 8 0 51 <1 925 1107 1056 1243	history1 8 0 55 <1 987 1224 1084 1375	history2 7 0 52 <1 909 1100 1017 1235
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 8 0 51 <1 925 1107 1056 1243 3632	history1 8 0 55 <1 987 1224 1084 1375 3898	history2 7 0 52 <1 909 1100 1017 1235 3218
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 8 0 51 <1 925 1107 1056 1243 3632 current	history1 8 0 55 <1 987 1224 1084 1375 3898 history1	history2 7 0 52 <1 909 1100 1017 1235 3218 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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 limit/base	current 8 0 51 <1 925 1107 1056 1243 3632 current 5	history1 8 0 55 <1 987 1224 1084 1375 3898 history1 4	history2 7 0 52 <1 909 1100 1017 1235 3218 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 8 0 51 <1 925 1107 1056 1243 3632 current 5 2	history1 8 0 55 <1 987 1224 1084 1375 3898 history1 4 4	history2 7 0 52 <1 909 1100 1017 1235 3218 history2 4 6
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 8 0 51 <1 925 1107 1056 1243 3632 current 5 2 2	history1 8 0 55 <1 987 1224 1084 1375 3898 history1 4 5 history1 0.2	history2 7 0 52 <1 909 1100 1017 1235 3218 history2 4 6 7
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 TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >3	current 8 0 51 <1 925 1107 1056 1243 3632 current 5 2 2 current	history1 8 0 55 <1 987 1224 1084 1375 3898 history1 4 5 history1	history2 7 0 52 <1 909 1100 1017 1235 3218 history2 4 6 7 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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >3	current 8 0 51 <1 925 1107 1056 1243 3632 current 5 2 2 current 0.3	history1 8 0 55 <1 987 1224 1084 1375 3898 history1 4 5 history1 0.2	history2 7 0 52 <1 909 1100 1017 1235 3218 history2 4 6 7 history2 0 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	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 1000 225 220 20 20 20 20 20 20 20 20 20 20 20	current 8 0 51 <1 925 1107 1056 1243 3632 current 5 2 current 0.3 6.3	history1 8 0 55 <1 987 1224 1084 1375 3898 history1 4 5 history1 0.2 5.7	history2 7 0 52 <1 909 1100 1017 1235 3218 history2 4 6 7 history2 0 0.7 8.1
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 imit/base >3 >20 >30	current 8 0 51 <1 925 1107 1056 1243 3632 current 5 2 current 0.3 6.3 18.7	history1 8 0 55 <1 987 1224 1084 1375 3898 history1 4 5 history1 0.2 5.7 18.2	history2 7 0 52 <1 909 1100 1017 1235 3218 history2 4 6 7 history2 0.7 8.1 19.5



OIL ANALYSIS REPORT





Feb 8/24

1/24

/lav/24/24

Jun20/24

Dec15/23

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	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.1	13.8
GRAPHS						

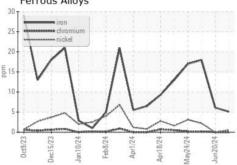
Ferrous Alloys

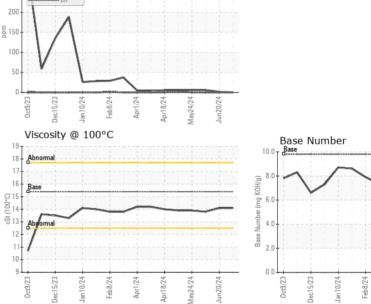
Non-ferrous Metals

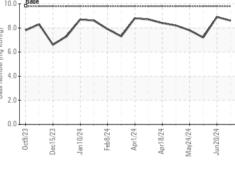
lead

300

250







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 891 - Oklahoma City Hauling Sample No. : GFL0093485 Received : 03 Jul 2024 1001 South Rockwell Lab Number : 06227224 Tested : 05 Jul 2024 Oklahoma City, OK Unique Number : 11110717 Diagnosed : 05 Jul 2024 - Wes Davis US 73128 Test Package : FLEET Contact: Andy Smith Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. andrew.smith@gflenv.com T: (405)306-1651 * - 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) F: