

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

728052-42

Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- LTR)

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

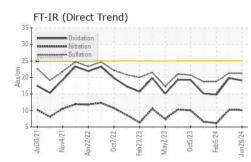
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

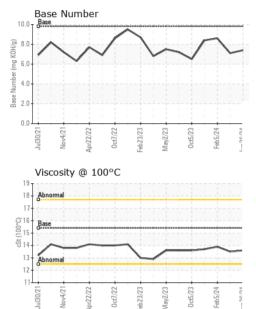
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0121128	GFL0103112	GFL0103142
Sample Date		Client Info		26 Jun 2024	09 Apr 2024	05 Feb 2024
Machine Age	hrs	Client Info		12364	11773	11319
Oil Age	hrs	Client Info		591	600	115
Oil Changed		Client Info		Changed	Changed	N/A
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	20	21	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	7	2
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	<1 history1	0 history2
	ppm ppm		limit/base 0			-
ADDITIVES		method	0	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 6	history1 15	history2 29
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 6 0	history1 15 0	history2 29 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 6 0 63	history1 15 0 68	history2 29 0 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 6 0 63 <1	history1 15 0 68 <1	history2 29 0 62 <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 6 0 63 <1 1046	history1 15 0 68 <1 1121	history2 29 0 62 <1 968
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 6 0 63 <1 1046 1218	history1 15 0 68 <1 1121 1293	history2 29 0 62 <1 968 1113
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 6 0 63 <1 1046 1218 1119	history1 15 0 68 <1 1121 1293 1172	history2 29 0 62 <1 968 1113 1087
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 6 0 63 <1 1046 1218 1119 1430	history1 15 0 68 <1 1121 1293 1172 1493	history2 29 0 62 <1 968 1113 1087 1313
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	Current 6 0 63 <1 1046 1218 1119 1430 3556	history1 15 0 68 <1 1121 1293 1172 1493 3743	history2 29 0 62 <1 968 1113 1087 1313 3267
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 6 0 63 <1 1046 1218 1119 1430 3556 current	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1	history2 29 0 62 <1 968 1113 1087 1313 3267 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium 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 method	0 0 60 1010 1070 1150 1270 2060 imit/base	current 6 0 63 <1 1046 1218 1119 1430 3556 current 5	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1 5	history2 29 0 62 <1 968 1113 1087 1313 3267 history2 2
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 imit/base	current 6 0 63 <1 1046 1218 1119 1430 3556 current 5 2	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1 5 <1	history2 29 0 62 <1 968 1113 1087 1313 3267 history2 2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sidium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 6 0 63 <1 1046 1218 1119 1430 3556 current 5 2 12	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1 5 <1 6	history2 29 0 62 <1 968 1113 1087 1313 3267 history2 2 <1
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >3	current 6 0 63 <1 1046 1218 1119 1430 3556 current 5 2 12 2 12 current	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1 5 <1 6 history1	history2 29 0 62 <1 968 1113 1087 1313 3267 history2 2 <1 <1 <1 +history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium 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 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >3	current 6 0 63 <1 1046 1218 1119 1430 3556 current 5 2 12 current 0.4	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1 5 <1 6 history1 0.4	history2 29 0 62 <1 968 1113 1087 1313 3267 history2 2 <1 +istory2 2 <1 - history2 0.1
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 ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 <i>Imit/base</i> >25 >20 <i>Imit/base</i> >3 >20	current 6 0 63 <1 1046 1218 1119 1430 3556 current 5 2 12 current 0.4 10.1	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1 5 <1 6 history1 0.4 10.2	history2 29 0 62 <1 968 1113 1087 1313 3267 history2 2 <1 history2 0 0.1 6.1
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 D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20 >30	current 6 0 63 <1 1046 1218 1119 1430 3556 current 5 2 12 current 0.4 10.1 21.2	history1 15 0 68 <1 1121 1293 1172 1493 3743 history1 5 <1 6 history1 0.4 10.2 21.3	history2 29 0 62 <1 968 1113 1087 1313 3267 history2 2 <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. <



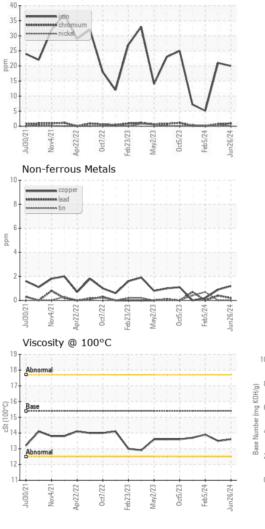
OIL ANALYSIS REPORT

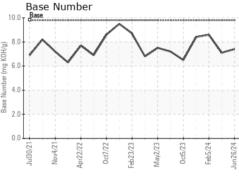
Ferrous Alloys





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	13.6	13.5	13.9
GRAPHS						





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 683 - Ruckersville Hauling Sample No. : GFL0121128 261 INDUSTRIAL DR Received : 28 Jun 2024 Lab Number : 06223346 Tested : 01 Jul 2024 Ruckersville, VA Unique Number : 11101543 Diagnosed : 01 Jul 2024 - Wes Davis US 22698 Test Package : FLEET Contact: Jaf Finney Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jfinney@gflenv.com T: (434)990-4972 * - 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:

Report Id: GFL683 [WUSCAR] 06223346 (Generated: 07/02/2024 03:53:29) Rev: 1

Submitted By: Jaf Finney Page 2 of 2