

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 912007 Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (9 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.

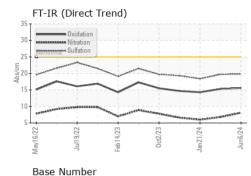
Fluid Condition

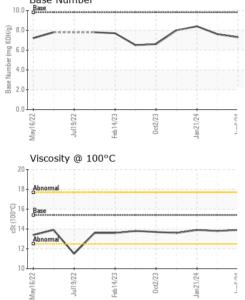
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0124765	GFL0115114	GFL0106686
Sample Date		Client Info		06 Jun 2024	26 Mar 2024	21 Jan 2024
Machine Age	hrs	Client Info		9084	8493	7914
Oil Age	hrs	Client Info		591	579	612
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	>120	14	34	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	3	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	3	2
Lead	ppm	ASTM D5185m	>40	1	<1	<1
Copper	ppm	ASTM D5185m	>330	2	13	1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	nnm	ASTM D5185m		0	0	0
Gaumum	ppm	ASTIVI DOTODITI		0	0	0
ADDITIVES	ррш	method	limit/base	current	0 history1	history2
	ppm		limit/base	-	-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 2	history1 6	history2 1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current 2 0	history1 6 0	history2 1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 2 0 57	history1 6 0 52	history2 1 0 59
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 2 0 57 <1	history1 6 0 52 <1	history2 1 0 59 <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 2 0 57 <1 1018	history1 6 0 52 <1 882	history2 1 0 59 <1 952
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 2 0 57 <1 1018 1198	history1 6 0 52 <1 882 968	history2 1 0 59 <1 952 1059
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	0 0 60 0 1010 1070 1150	current 2 0 57 <1 1018 1198 1074	history1 6 0 52 <1 882 968 973	history2 1 0 59 <1 952 1059 1020
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 2 0 57 <1 1018 1198 1074 1366 3542 current	history1 6 0 52 <1 882 968 973 1184 3214 history1	history2 1 0 59 <1 952 1059 1020 1284 3102 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	current 2 0 57 <1 1018 1198 1074 1366 3542 current 4	history1 6 0 52 <1 882 968 973 1184 3214 history1 4	history2 1 0 59 <1 952 1059 1020 1284 3102 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 57 <1 1018 1198 1074 1366 3542 current 4 4	history1 6 0 52 <1 882 968 973 1184 3214 history1 4 3	history2 1 0 59 <1 952 1059 1020 1284 3102 history2 4 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 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 2 0 57 <1 1018 1198 1074 1366 3542 current 4 4 0	history1 6 0 52 <1 882 968 973 1184 3214 history1 4 3 2	history2 1 0 59 <1 952 1059 1020 1284 3102 history2 4 4 3
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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	current 2 0 57 <1 1018 1198 1074 1366 3542 current 4 0 current	history1 6 0 52 <1 882 968 973 1184 3214 history1 4 3 2 history1	history2 1 0 59 <1 952 1059 1020 1284 3102 history2 4 3 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 limit/base >25 >20 limit/base	current 2 0 57 <1 1018 1198 1074 1366 3542 current 4 0 current 0 current 0.6	history1 6 0 52 <1 882 968 973 1184 3214 history1 4 3 2 history1 0.5	history2 1 0 59 <1 952 1059 1020 1284 3102 history2 4 3 history2 0 1020 1284 3102 history2 0 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 TS ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 225 220 220 1imit/base >22 20	current 2 0 57 <1 1018 1198 1074 1366 3542 current 4 0 current 0 current 0.6 8.1	history1 6 0 52 <1 882 968 973 1184 3214 history1 4 3 2 history1 0.5 6.8	history2 1 0 59 <1 952 1059 1020 1284 3102 history2 4 3 history2 0.1 6.0
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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 225 225 220 220 1imit/base >22 20	current 2 0 57 <1 1018 1198 1074 1366 3542 current 4 4 0 current 0.6 8.1	history1 6 0 52 <1 882 968 973 1184 3214 history1 4 3 2 history1 0.5 6.8	history2 1 0 59 <1 952 1059 1020 1284 3102 history2 4 3 history2 0.1 6.0
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	current 2 0 57 <1 1018 1198 1074 1366 3542 current 4 0 current 0 current 0.6 8.1 19.8	history1 6 0 52 <1 882 968 973 1184 3214 history1 4 3 2 history1 0.5 6.8 19.7	history2 1 0 59 <1 952 1059 1020 1284 3102 history2 4 3 history2 0.1 6.0 18.4



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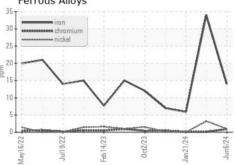


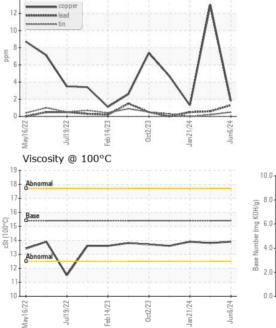


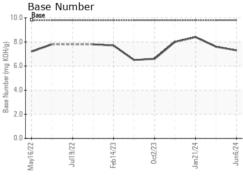
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.9	13.8	13.9
GRAPHS						

Ferrous Alloys

Non-ferrous Metals







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 405 - Arbor Hills Sample No. : GFL0124765 Received 7811 Chubb Rd : 01 Jul 2024 Lab Number : 06224348 Tested : 02 Jul 2024 NORTHVILLE, MI Unique Number : 11102545 Diagnosed : 02 Jul 2024 - Wes Davis US 48168 Test Package : FLEET Contact: John Nahal Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jnahal@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: