



Area

(41429UA)

Machine Id

829095

Component

Diesel Engine

Fluid

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

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0122005	GFL0122064	GFL0111908
Sample Date		Client Info		25 Jun 2024	27 May 2024	03 May 2024
Machine Age	hrs	Client Info		9195	9062	8976
Oil Age	hrs	Client Info		8968	8921	8901
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	78	57	43
Chromium	ppm	ASTM D5185m	>20	3	2	2
Nickel	ppm	ASTM D5185m	>4	1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	11	9	8
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	3	1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

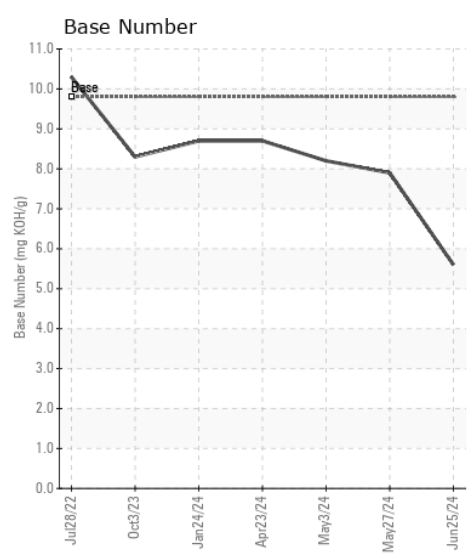
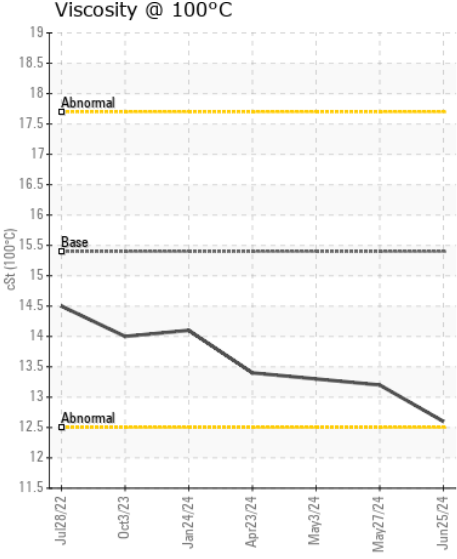
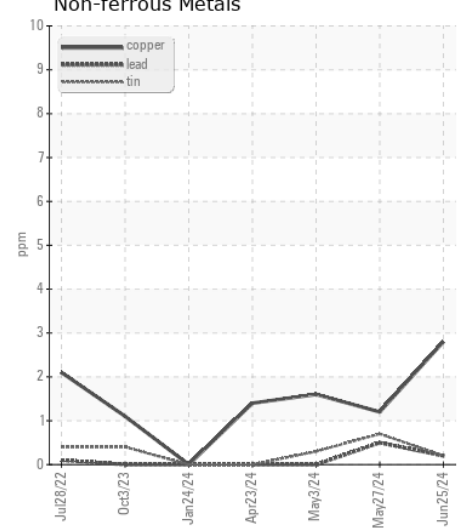
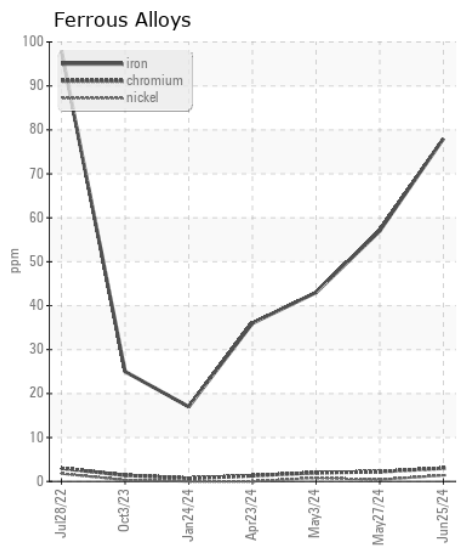
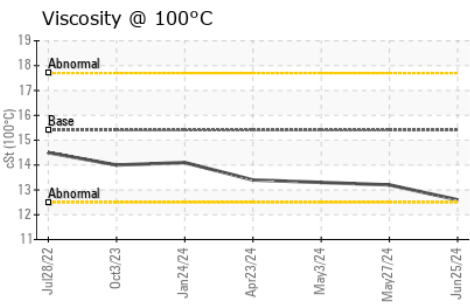
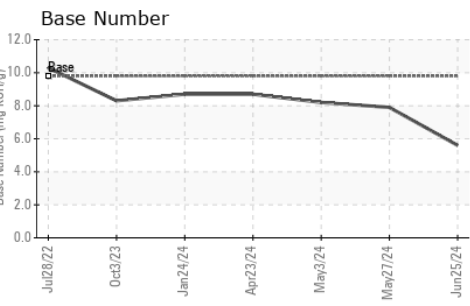
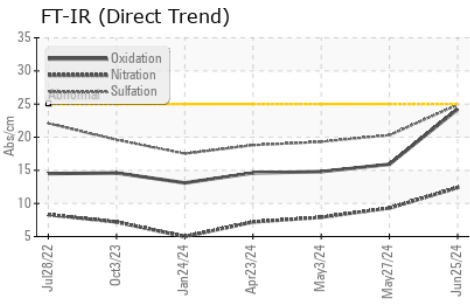
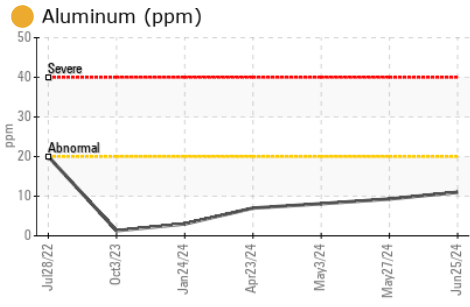
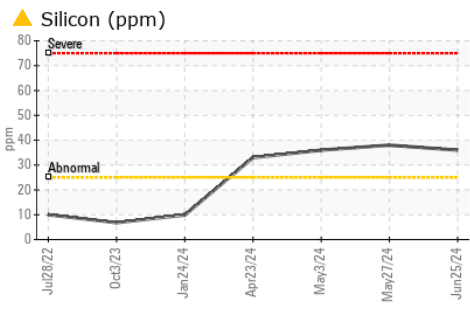
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	36	38	36
Potassium	ppm	ASTM D5185m	>20	30	18	12
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.2	0.8	0.5
Nitration	Abs/cm	*ASTM D7624	>20	12.4	9.3	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.9	20.3	19.3
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

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.

Sodium	ppm	ASTM D5185m		13	7	5
Boron	ppm	ASTM D5185m	0	5	8	8
Barium	ppm	ASTM D5185m	0	<1	0	0
Molybdenum	ppm	ASTM D5185m	60	58	56	58
Manganese	ppm	ASTM D5185m	0	2	1	<1
Magnesium	ppm	ASTM D5185m	1010	896	875	870
Calcium	ppm	ASTM D5185m	1070	1078	1048	1060
Phosphorus	ppm	ASTM D5185m	1150	1006	1008	1005
Zinc	ppm	ASTM D5185m	1270	1225	1182	1161
Sulfur	ppm	ASTM D5185m	2060	3065	3345	2982
Oxidation	Abs/.1mm	*ASTM D7414	>25	24.2	15.9	14.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.6	7.9	8.2
Visc @ 100°C	cSt	ASTM D445	15.4	12.6	13.2	13.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122005 **Received** : 27 Jun 2024
Lab Number : 06222165 **Tested** : 28 Jun 2024
Unique Number : 11100362 **Diagnosed** : 29 Jun 2024 - Don Baldrige
Test Package : FLEET

GFL Environmental - 652 - Fredericksburg Hauling
 10954 Houser Drive
 Fredericksburg, VA
 US 22408
 Contact: WILLIAM MILO
 wmilo@gflenv.com
 T:
 F:

Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - 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)